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# Reuniting a Community: the Stephen Kaplanis YMCA

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# Reuniting a Community

## The Stephen Kaplanis YMCA



Independent project submitted to Roger Williams University, School of  
Architecture, Art and Historic Preservation

May 2009

Michael Kozlowski

Class of 2009

Advisor: William McQueen

# Signature Page



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by

Michael Kozlowski  
Class of 2009

William McQueen  
Advisor

Stepehn White  
Dean  
School of Architecture, Art and Historical Preservation



# Absract

Of the many people you meet in a lifetime, few have an impression that sticks with you forever. For me one of those persons was Stephen Kaplanis. Simply referred to as Coach Kap. He was my high school football coach from 2000-2003. He was one of the smartest football minds around. He is recognized nationally for his record of 200 wins and 9 losses with two national titles as a Pop-Warner football coach before becoming a high school coach. He was great. But it was his dedication to his players that made him greater. He taught everyone, including myself, valuable life lessons, and to pursue our goals in life not just in the athletic venue but in academics and in life. He was tragically taken from us to early on May 24, 2005. I had just finished my Freshman year of architecture. And it was him that has kept me going. When times have gotten tough and all I wanted to do was quit, I didn't because he instilled in me the drive to put in 110% in everything I do and to never quit. This is why this project is being dedicated in his name. Oh did I mention he stated the DAYO Danbury Area Youth Organization. So he was known and loved by everyone, it is only appropriate that this building don his name.

Through the program of this building I am looking to create an environment that is conducive to learning, being active, and being a good person. The variety of "centers" within the structure will aid in the development of the young people of Danbury and the surrounding towns. Combined that with ideas of natural lighting and open floor plan, I plan on creating a space that all will enjoy going to and being in, just as so many people enjoyed being in the company of Coach Kap.



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# Opening Statement/Manifesto



From the very beginnings of man, architecture has been a part of everyday life and always been about one thing, the people. It has been there to serve the people's needs, wants, and desires. Architecture shows the progression of man from the Stone Age to the modern day. It has always been about new technology and the need and to make buildings better and more efficient. It is interesting to see how architecture unlike anything else can really define and shape not only a time period but a region and society of people. The ancient Greeks and Romans lives were determined by architecture; many modern day construction methods were discovered during this period only to be lost and rediscovered thousands of years later. Their architecture and technology are two things that help place an image of what their society was when people study their history. The renaissance, meaning enlightenment and rebirth, gave way to new technologies and the great building that came along with it. It is safe to say that when one thinks of this time period images of great cathedrals of Europe come to mind, again proving that architecture has its way of defining a society and region and the progression of man. From that time on new materials were discovered, steel and concrete became easier methods of building and with these materials people realized that they could build bigger and stronger. It was the birth of the skyscraper. Buildings that from the ground seemed like they went on forever into the sky. This building type helped define the American society and especially their progression as they became a more prominent country on the world stage. And throughout the history of man and all the buildings that were created, they were designed and built for one main purpose, to serve the people and their needs.

I believe that all architecture has the same goal it has had when ancient man used caves as shelter, to protect and serve the people. It is the people's needs that have defined what architecture is. People needed places to gather so structures like the coliseum were built, they needed places to worship so the great temples and cathedrals were constructed. They needed places to work, so skyscraper office buildings were completed and everyone needs a place to live so houses of all kinds have always been around since the beginning of man. All these examples do one thing, serve the people.

# Opening Statement/Manifesto



As long as architecture attends to the needs of the people, I would consider it successful (a hut in an African village to me is a successful piece of architecture because it attends to the needs of the villagers). Yes as architects we strive to serve these needs and give a masterful work of art, but to me it is more than just aesthetic and form. It is a complicated problem these days more so than in antiquity, the renaissance, or even early American society. It is the integration of all the parts of a building (mechanical, electrical, plumbing, code, and form and function), that when done correctly creates a masterful piece of work. The one thing that has always fascinated me about architecture since I was a little kid was the uniqueness of every building. It is looking at the blueprints and understanding that a lot of work has gone into that one thing that will never be duplicated. Everything else around us, like a computer, car, or piece of store bought furniture is like the one right next to it. They are mass produced to be exactly the same, and when made they follow an instructions on how it is put together. But architecture is unique, yes we may use the same concepts that the Romans did, or the same materials that others have used, but no two projects are exactly alike. The people building these structures have different needs, and even if they say they want that exact building it will never be the same.

When approaching architecture I feel that you need to attend to the people's needs, be responsible to achieve these needs, look to previous architecture for inspiration, continue to define a region and society, be unique, and create a program that does not only work as an art form but make sure you integrate all the parts that are necessary without even knowing they are there, much like Louis Kahn in the Salk Institute. Finally, continue the story that is architecture and its PEOPLE.

# Problem Statement



Buildings to me have always been about the people and how one experiences and uses these places. These buildings may be homes, offices, or gathering places. There is one type of building that can really unite a community; a community center. In today's fast moving instant gratification world, everything is run by some sort of a computer. As the first generation of the information age we have grown as computers have and have learned their benefits to our development as students and life. But there seems to be a fall back from all of this. Less and less children simply play outside anymore; I too became guilty of that in my later years of middle school and even in high school. (And yes teens in High School are never too old to get out and play). Instead of playing around outside and being active, many children get home, turn on the TV (which in today's world has over 1000 channels to choose from), play video games, or go on the computer. This has led to a variety of problems. First, childhood obesity is a serious concern in society and often times children do not use their imagination as much. Two things, exercise and thinking, that are vital to a child's growth. Other reasons why children do not find themselves outside; they do not have anyone to play and interact with or their neighborhood is simply not a safe place to be outside.

There was a similar situation happening in the mid 1800s. In the midst of the industrial revolution, 10 – 12 hours a day, six days a week and literally lived at work. Going outside was not an option because the streets were not a good place to be. "Outside the shop things were bad -- open sewers, pickpockets, thugs, beggars, drunks, lovers for hire and abandoned children running wild by the thousands." (ymca.net). As a result the first YMCA was formed in London, England. The idea of the Y was a unique one at first.

The YMCA idea, which began among evangelicals, was unusual because it crossed the rigid lines that separated all the different churches and social classes in England in those days. This openness was a trait that would lead eventually to including in YMCAs all men, women and children, regardless of race, religion or nationality. Also, its target of meeting social need in the community was dear from the start. (YMCA.net)

I think today's problem can be solved by improving on the original idea of the YMCA, a center that is for everyone, but geared towards children to interact with and play with others. As well as brings a sense of community towards the location of this building.



# Architectural Intentions



- Try to reuse an old site with old buildings to revitalize an area:

This is very important to the revitalization of an area or community. In the case of this project I am attempting to bring back the City to its golden days when this area used to be the center of culture for an entire region. Reusing an old site and old building helps the seamless transition back to these golden days.

- Create a prototype or basic outline of what this building should be so it can be replicated and done at multiple locations:

One of my goals is to create a new unique program that a client, like the YMCA, could use to revitalize a community; not only in my location but anywhere a YMCA is needed or already present.

- Creating a warm, welcoming environment for everyone in the community especially children:

Using natural light to flood the spaces, especially in areas of learning and exercise.

# Project Statement



There is a need for a community center to bring children together, to interact with one another, to become healthy, and simply just to play. Being active in a healthy community is just one way that children can grow up to be great citizens. This center can bring together all the young people in the town and region to learn how to interact with one another. This is not just for kids to become athletic. Here they will learn to grow and develop into young men and women and good citizens. There will be multiple components to the building, maybe even multiple buildings linked together. These components are being divided into, what will be called, centers. There will be facilities to play in but also there will be facilities to learn in, such as classrooms where children can learn about and create art. It is a place that is all about the development of young minds and bodies. It's about the young PEOPLE. The development of these young people is key to a good community. For it is these young people that will grow into young adults, who will eventually be in charge of the community. And developing healthy children now, with a sense of community, can only help in the future development of the area and make continually making the community a great place to live and grow.



# Clients and Users



One of the final pieces of the puzzle is complete. In the heart of the city of Danbury lies a series of buildings that serve the public, there is city center dinning, store front shopping, outdoor lawn and amphitheater, ice arena, and parking structure. In this area of the proposed YMCA, exists a few smaller run down and even abandoned buildings currently occupying a prominent corner of Main Street. Using this site, this new building, located centrally in the city, can unite and redefine the area. As well as bring back economy that was lost to the shopping mall put outside the city limits. Existing in the town already is an old YMCA that has a small gym, pool, and fitness facility. Also there is another YMCA in another part of town that serves the creative arts. Both buildings are out dated and stuck in the 20th century. By combining many of the amenities of these two existing Y's and adding additional program in conjunction with a prominent site, the city of Danbury can have a mini renaissance.

This Hybrid YMCA is the place where a whole family can come to one location, enjoy different parts of the building, workout, learn, and be with friends. A visitor would first enter into the "Welcome Center" where a lounge and a café would invite outsiders in. From there a directory could direct them to their desired location. The building is broken down into "Center's". There is the "Water Center", "Sport Center", "Creative Center", "Group Center", and "Administration Center". All of these centers contain their own program with integrated spaces. A family could come here become fit and healthy, learn, create and perform, and be with friends and families.



# Program



Public Spaces – The “Welcome Center”, these are the areas of the building that are open to the public, members or not. The lounge is where people could meet before a class, workout, or game. The café is a juice bar with healthy snacks and drinks.

- Lounge
- Café
- Men’s Room
- Women’s Room



# Program



Aquatic Center – The “Water Center” of the building contains two pools and possibly separate locker rooms. The main pool is large enough to hold swim meets, while the children pool offers a safe alternative for the younger members.

- Main Pool
- Children’s Pool
- Men Locker
- Women Locker



# Program



Field House – The “Sport Center”, the Field house can serve as the setting for a variety of different sport activities, as well as serve as the training and fitness center of the building. There would be two sides of the gym, one side for older adults and parents and the other for younger people. Both sides occupy the space called the central hub. This is sort of a prototype idea. The stationary bikes and elliptical machines located here harness the energy created by the user and can power the TV's, sound system, and even light. One such current system uses the heat energy given off to create electricity; this not only creates energy but reduces the amount of heat in the naturally hot area.

- Basketball/Tennis/Volleyball Court
- Indoor Track and Climbing Wall
- Track and Field Stations and Weight Room
- Nautical Machines and Men Locker
- Women Locker and Racquetball/squash Court
- Central Hub



# Program



Classrooms – the “Creative Center”, this is a series of classrooms that offer a variety of hobbies for after school or even adults to take apart of. One can hone their mechanic skills while another takes part in a dance class. With the wide variety of skills being located in close proximity to one another, young adults can gain valuable skills for life.

- Computer Room
- Audio Room
- Kitchen
- Art Classroom





# Program



Administration – The “Administration Center”, this group of program keeps the place running. Sets up the schedule of events, brings in funding, and maintains the building.

- Offices
- Front Desk
- Conference
- Storage
- Bathroom



# Program



Gathering Spaces – The “Group Center”, the variety of spaces here include The community room is a large class room where family activities can take place of even things like a voting station on voting days. The game room offers an oasis for people including pool, ping pong, and air hockey tables. Finally, the child care is where the younger members of the family can go when the parents are working out and their older sibling is in a class.

- Community Room
- Game Room
- Child Care



# Program



Exterior Space – The “Green Center”, Landscape is something that can really help or hinder a project. To quote the reader “Landscape is not given, it is made and remade”, this is a key component to this building as it is located in the center of the city. The goal is to create an oasis among the buildings.

- Entrance space
- Courtyard
- Picnic Area





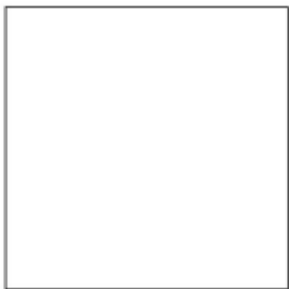
# Program



**Welcome Center**  
2000sf



**Water Center**  
13,300sf



**Sport Center**  
53,200sf



**Creative Center**  
5,200sf



**Administration Center**  
1620sf



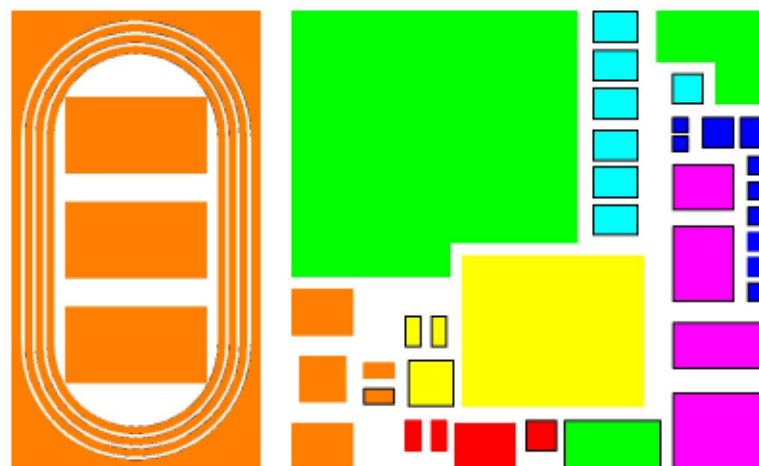
**Group Center**  
8000sf

# Program

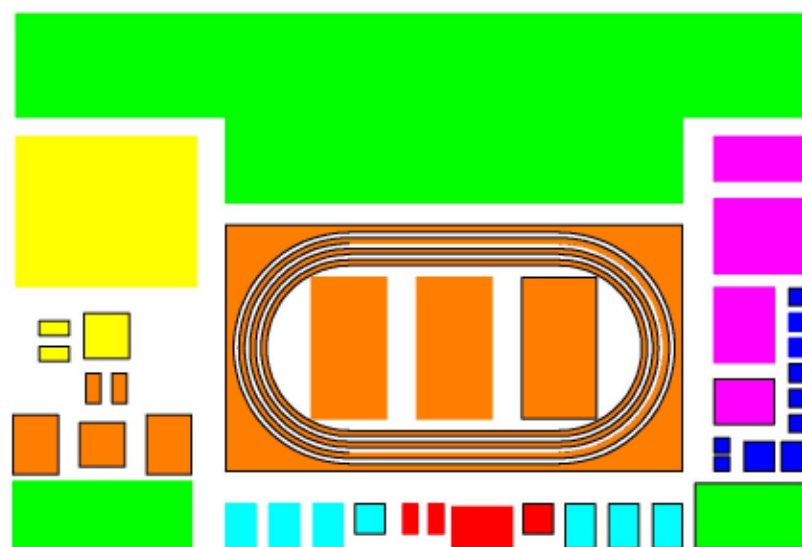


	<u># and sf</u>	<u>Total</u>
Welcome Center		
Lounge	82x34	2,800
Atrium	20x300	6,000
Café	30x42	1,260
Men's Room	20x25	500
Women's Room	25x25	<u>625</u>
		10,660
Water Center		
Main Pool	115x88	10,000
Children Pool	55x40	2,200
Pool Mechanical		4,500
Grandstands		3,500
Poolside Cafe	35x25	900
Men Locker	40x30	1,200
Women Locker	40x30	<u>1,200</u>
		25,000
Sport Center		
Field House	110x100	11,000
Weight Area	78x42	3,270
Central Hub	64x45	2,880
Sky Track	64x58	3,700
Athletic Lounge		14,300
Aerobic Rooms	2(32x37)	<u>2,400</u>
		37,550
Creative Center		
Classrooms	2(32x32)	2,000
Supply Closet	15x24	<u>360</u>
		2,360
Administration Center		
Offices	4(10x12)	480
Conference	34x30	1,020
Front Desk	10x32	320
Storage/Equipment	20x24	<u>480</u>
		2,300
Group Center		
Community Room	55x40	2,200
Storage	15x24	360
Game Room	32x32	1,000
Child Care	32x32	<u>1,000</u>
		4,560
Exterior Space		
Roof Tennis Court	95x80	7,500
TOTAL:		
	NET sf	78,400
	GROSS sf x 120%	<u>94,080</u>

# Program



Creating a Courtyard



Creating a Balanced Entrance

# Site Identification



## Why Danbury?

Danbury is a City rich in history, settled in the 1600s its roots go back to early colonial days. Originally covering a much larger area it has been reduced in size with many smaller townships around it, yet it still serves as a central location of commerce and assembly. It contains a federal penitentiary, superior court, and the largest high school in the state. This central location makes sense not only for a town looking to re-identify itself but for a region to have a common location to share. The exact site is located on the corner of Main St. and Liberty St. Main street used to not only be the center of Danbury, but it was the center of northern Fairfield county as a center for culture and trade. The location of this community center aims to bring back the centralized feeling of Main Street.



Danbury, Connecticut

Northern Fairfield County  
(Western CT)

Latitude: 41° 24' 3" N

Longitude: 73° 28' 49" W

Population - 79,285  
(2000 Census)

Cost of living is 25.17%  
Higher than the U.S. average



# Site History



Danbury was first settled by colonists in 1685, when eight families moved to the area from the area that is now Norwalk and Stamford. One of the first settlers was Samuel Benedict who bought land from the Paquioque natives in 1685 along with his brother James, James Beebe, and Judah Gregory. The settlers originally chose the name Swampfield for their town, but in October 1687, the general court decreed the name Danbury.

During the American Revolution, Danbury was an important military supply depot for the Continental army. On April 26-27, 1777, the British under Major General William Tryon burned and looted the city.

The central motto on the seal of the City of Danbury is Restituimus (Latin for "We have restored"), a reference to the destruction caused by the Loyalist army troops. In 1780, the first hat factory in Danbury was established by Zadoc Benedict, employing three workers and producing 18 hats a week. Danbury was known as "The Hat City" or the "Hating Capital of the World" during the early 20th Century. The first Danbury Fair was held in 1821. By 1869, it became a yearly event and was held until 1981. After 1981, the fairgrounds were demolished to make room for the Danbury Fair Mall, which opened in the fall of 1986. This mall, though very successful has been something that has deteriorated the city center commerce.

In 1852, the first railroad line in Danbury opened, with two trains making the 75-minute trip to Norwalk. Today the rail is part of Metro-North which travels straight to Grand Central Station. A 60-acre tract near the Danbury Fairgrounds known as Tucker's Field was purchased by local pilots in 1928, and leased to the town. This became an airport, which is now Danbury Municipal Airport. In the August 1988 issue of Money Magazine, Danbury topped the magazine's list of the best U.S. cities to live in, mostly due to low crime, good schools, and location.



Rendering of Original Annual Fair



Merry Go Round from Original Fair now located in the Mall



# Site Identification



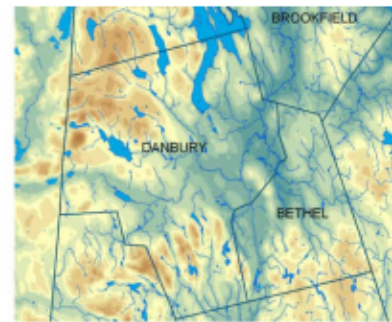
National Scale



The State



The Region



City Scale



Site Scale

# Site History



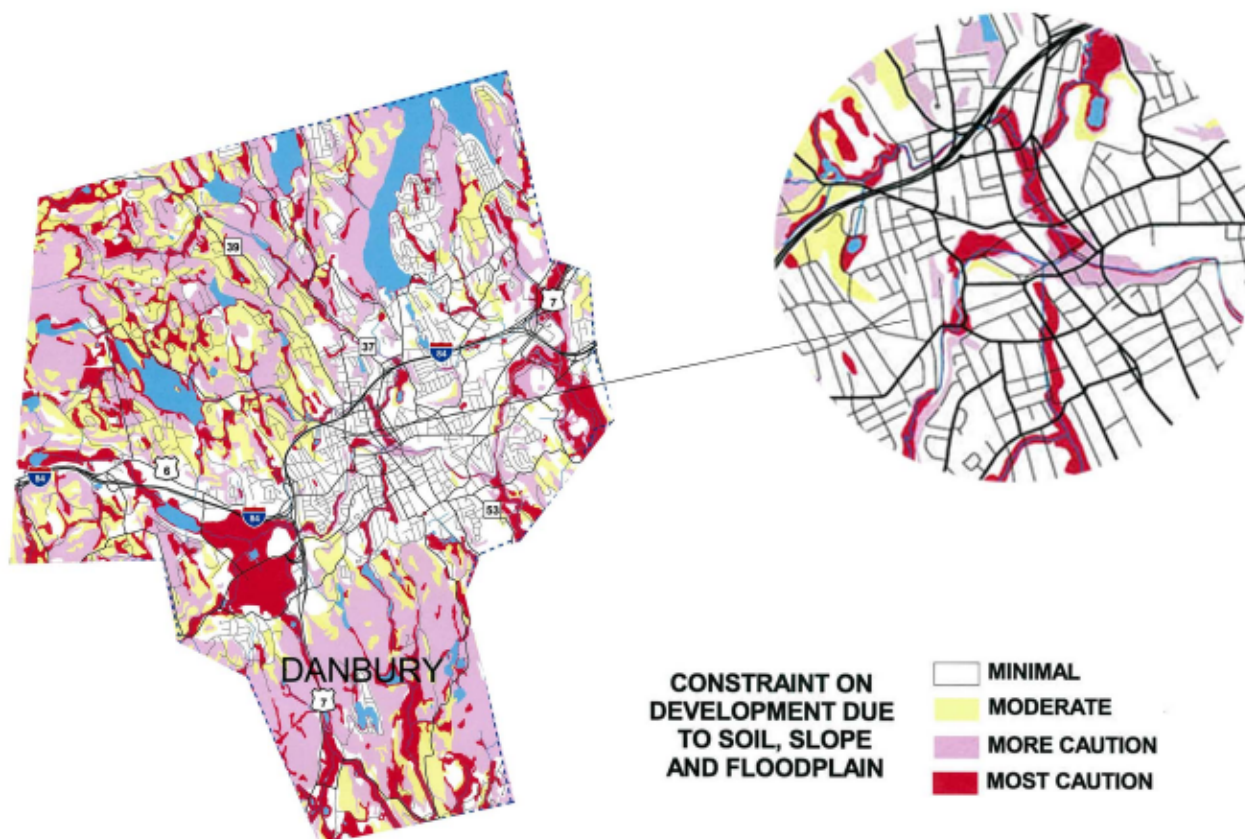
Topo Map 1892



Topo Map 1953

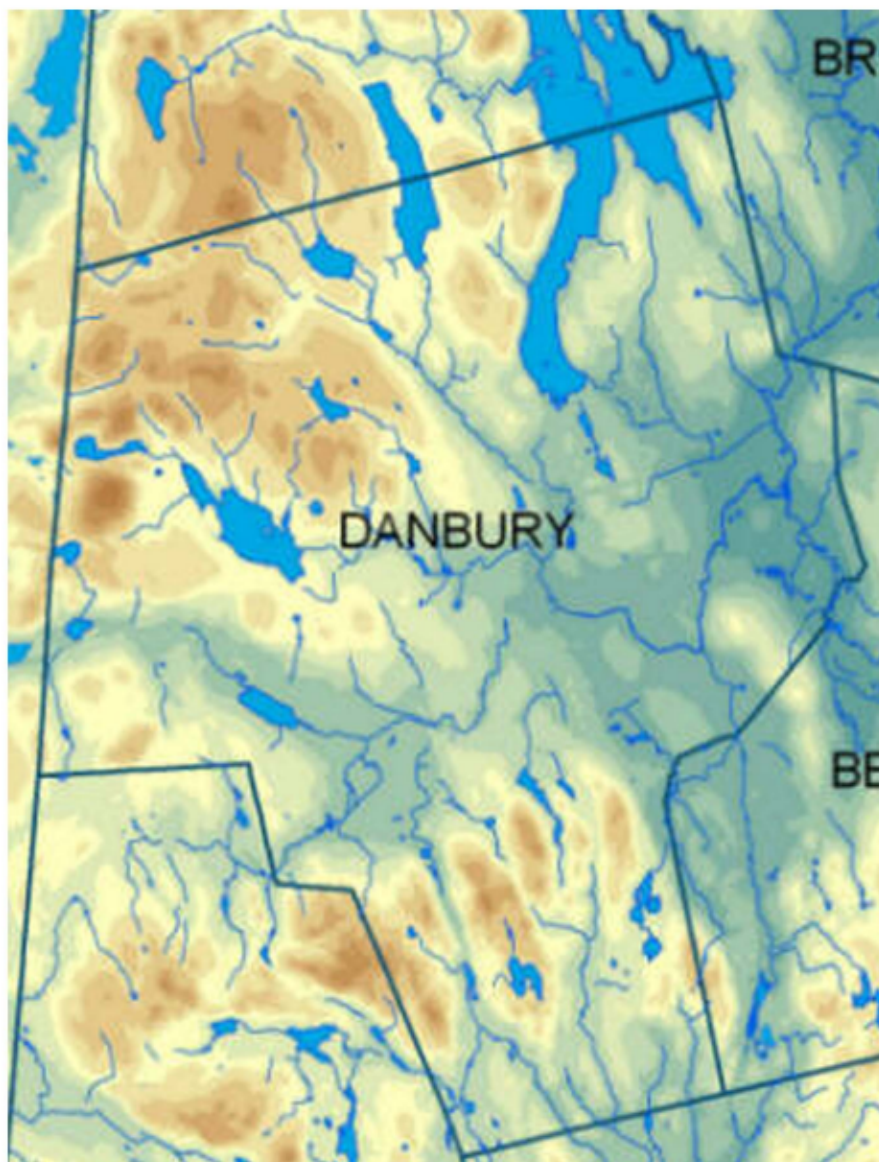


# Geological Features



Central Danbury lies in a broad bowl near the headwaters of the Still River. Rich limestone soils characterize this valley which extends eastward from Mill Plain, near the New York border, to Beaver Brook and northward through Brookfield to New Milford. The deep continental-rift valley with its limestone base, roughly the present Sympaug and eastern Still Valleys, was filled with much sediment and large glacial lakes spread over the entire central valley area. When an outlet to the Housatonic finally emerged at the north end of the valley, extensive melt-water-created gravel terraces remained in the old lakebeds. The upland areas of Danbury lie over crystalline bedrock from ancient mountain ranges, now much eroded. Here, too, the glacier altered the face of the land. The characteristic northwest to southeast ridges of heavy glacial-till soil and exposed ledges of bedrock remain from the melting-ice streams which tended to flow southeastward over the ice toward the ocean.

# Geological Features



## TOPOGRAPHIC OVERVIEW OF DANBURY, CT

The highest elevation in Danbury is about 1,067 feet between the New York border and West Lake Reservoir. Then the low point is about 293 feet in northeastern Danbury as the Still River flows north-erly into Brookfield.

# Climate



Danbury, CT climate is warm during summer when temperatures tend to be in the 70's and very cold during winter when temperatures tend to be in the 20's. The warmest month of the year is July with an average maximum temperature of 83.90 degrees Fahrenheit, while the coldest month of the year is January with an average minimum temperature of 17.60 degrees Fahrenheit. Temperature variations between night and day tend to be moderate during summer with a difference that can reach 23 degrees Fahrenheit, and fairly limited during winter with an average difference of 19 degrees Fahrenheit. The annual average precipitation at Danbury is 51.77 Inches. Rainfall in is fairly evenly distributed throughout the year. The wettest month of the year is September with an average rainfall of 4.99 Inches. The wind comes mainly from the west, in the summer and spring it tends to come from the southwest meanwhile the wind in the winter and fall tends to come from the northwest.

## Normal Temperatures

(DANBURY Weather station, 1.82 miles from Danbury)

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Max °F	35.4	38.6	48.1	59.6	70.9	79.3	83.9	81.4	73.0	62.0	50.7	39.6	60.2
Mean °F	26.5	29.0	37.8	48.0	58.8	67.5	72.5	70.3	62.1	50.9	41.4	31.2	49.7
Min °F	17.6	19.3	27.4	36.4	46.7	55.7	61.0	59.2	51.2	39.7	32.0	22.8	39.1

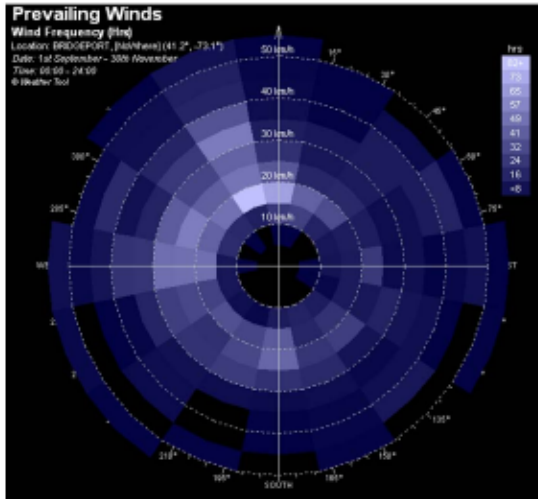
## Normal Precipitation

(DANBURY Weather station, 1.82 miles from Danbury)

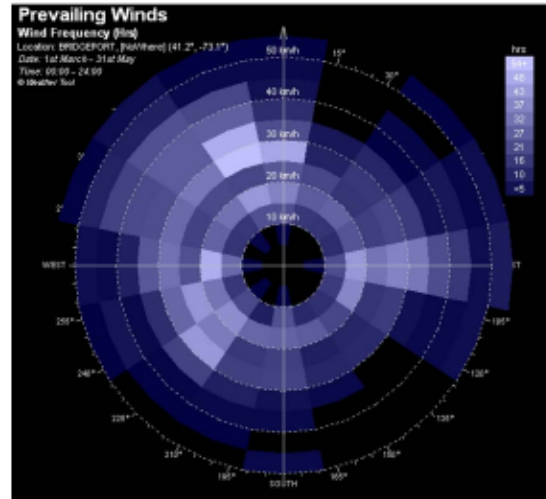
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Inch	4.22	3.08	4.45	4.27	4.69	4.26	4.61	4.49	4.99	4.18	4.45	4.08	51.77



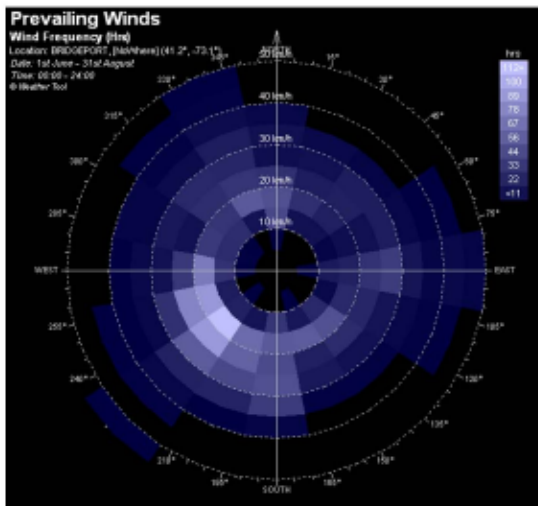
# Climate



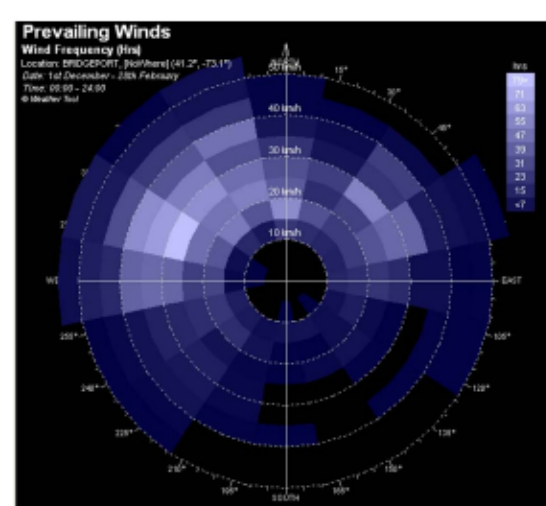
Wind Fall



Wind Spring

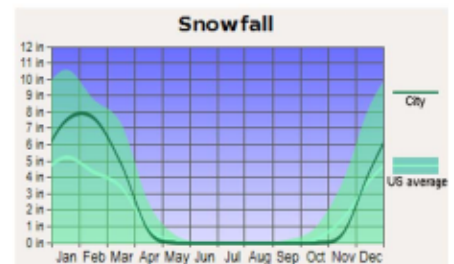
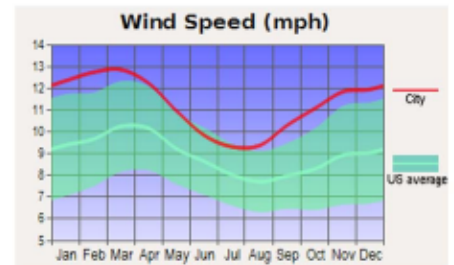
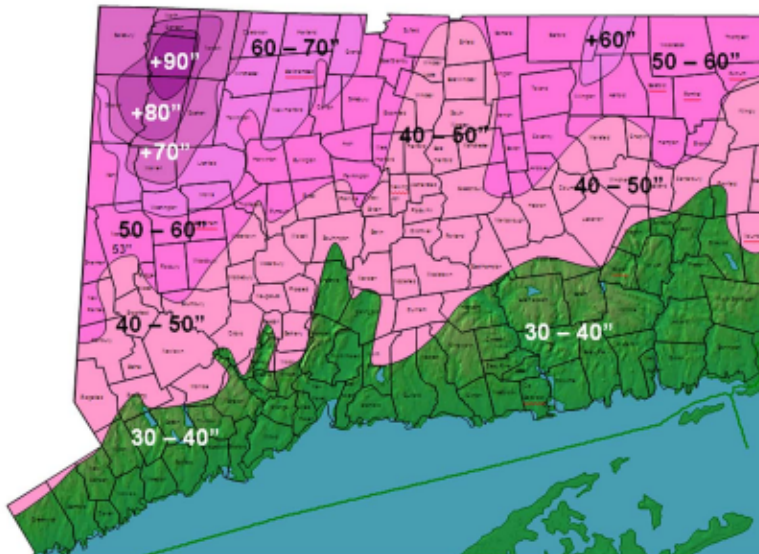
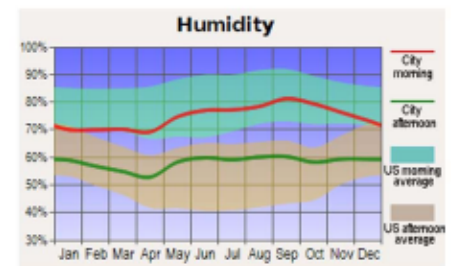
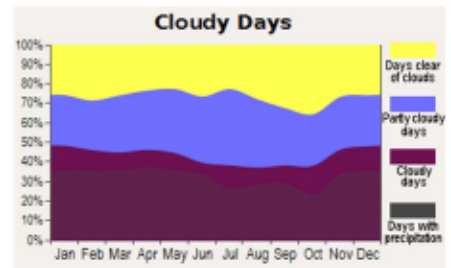
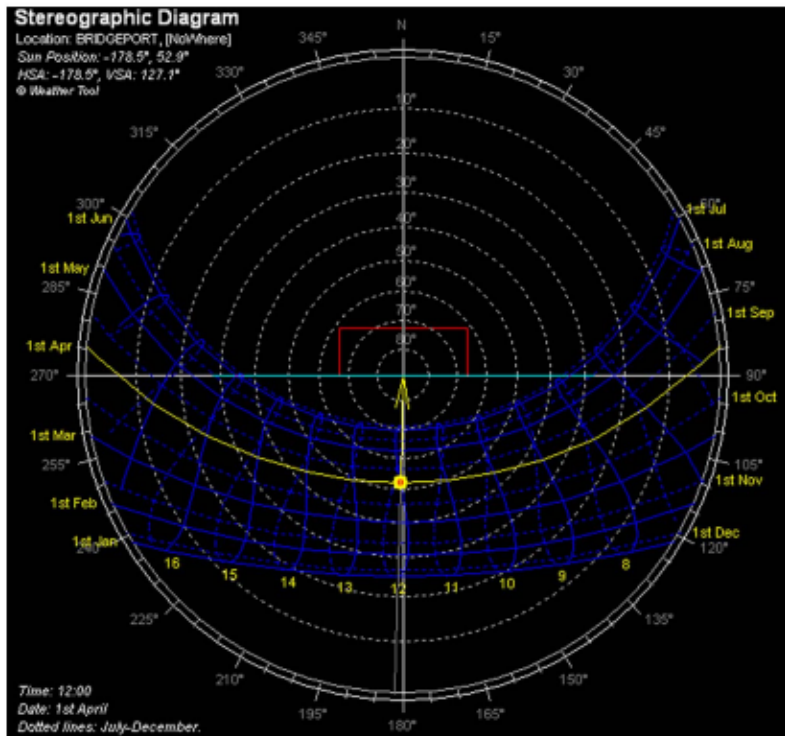


Wind Summer



Wind Winter

# Climate



<http://www.city-data.com/city/Danbury-Connecticut.html>

# Site Analysis



Bus Terminal

Train Station

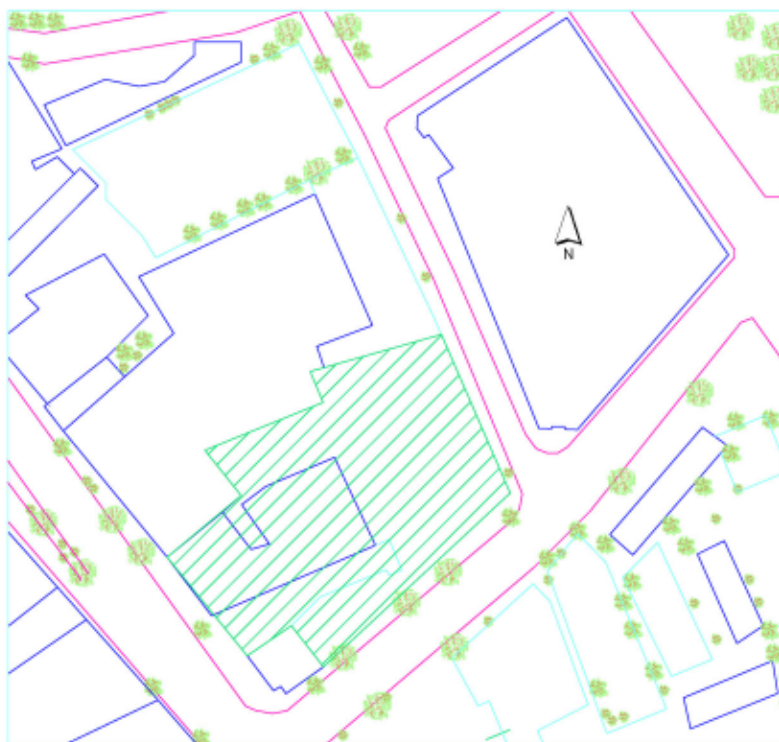
City Green

Danbury Ice Arena



The Site History

- Department Store
- Brewery
- Storage



The Highlighted Site is 100,000 square feet





# Site Context and Photos







# Demographics

Historical population of Danbury[1]	
1756	1,527
1790	3,031
1820	3,873
1850	5,964
1880	11,666
1910	23,502
1940	27,921
1970	50,781
1980	60,470
1990	65,585
2000	74,848
2004	78,263 (est.)[2]

## Public Schools

- 2 high schools
- 2 middle schools
- 14 elementary schools:

## Parochial Schools

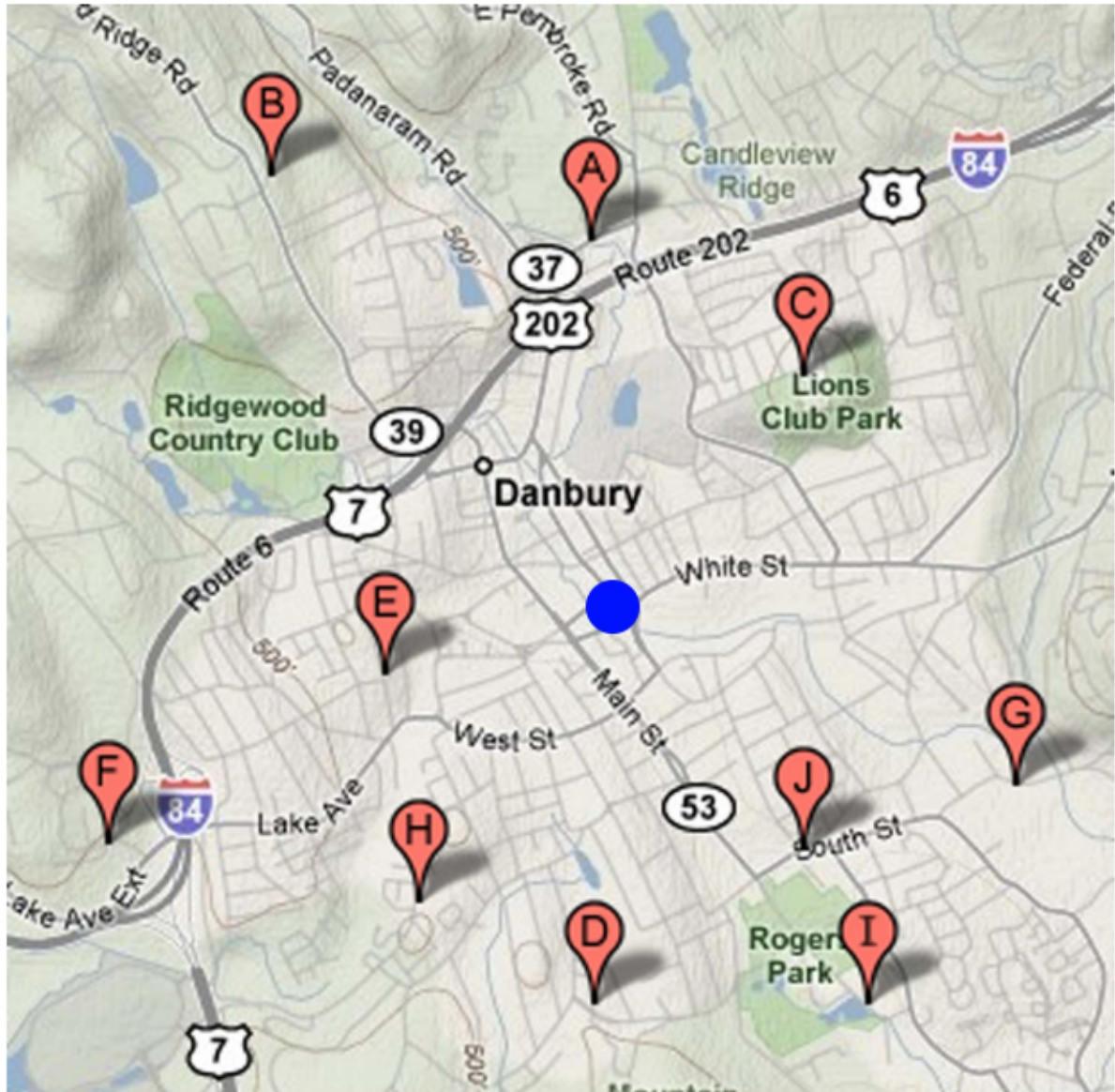
- 1 high school
- 4 elementary schools

## Private Schools

- 8 Schools

	Number	Percent
<b>Danbury Population:</b>	74848	100.00%
<b>Sex and Age</b>		
Male	36690	49.02%
Female	38158	50.98%
Under 5 years	4900	6.55%
5 to 9 years	4540	6.07%
10 to 14 years	4281	5.72%
15 to 19 years	4561	6.09%
20 to 24 years	5587	7.46%
25 to 34 years	13332	17.81%
35 to 44 years	13161	17.58%
45 to 54 years	10011	13.38%
55 to 59 years	3595	4.8%
60 to 64 years	2644	3.53%
65 to 74 years	4158	5.56%
75 to 84 years	2946	3.94%
85 years and over	1132	1.51%
Median age (years)	35.2	
18 years and over	58621	78.32%
Male	28450	38.01%
Female	30171	40.31%
21 years and over	55441	74.07%
62 years and over	9749	13.03%
65 years and over	8236	11%
Male	3263	4.36%
Female	4973	6.64%
<b>Race</b>		
One race	71888	96.05%
White	56853	75.96%
Black or African American	5060	6.76%
American Indian and Alaska Native	214	0.29%
Asian	4082	5.45%
Asian indian	1354	1.81%
Chinese	556	0.74%
Filipino	273	0.36%
Japanese	45	0.06%
Korean	110	0.15%
Vietnamese	344	0.46%
Other Asian	1400	1.87%
Native Hawaiian and Other Pacific Islander	26	0.03%
Native Hawaiian	9	0.01%
Guamanian or Chamorro	7	0.01%
Samoa	0	0%
Other Pacific Islander	10	0.01%
Some other race	5653	7.55%
Two or more races	2960	3.95%
<b>Hispanic or Latino and race</b>		
Total Population	74848	100.00%
Hispanic or Latino(of any race)	11791	15.75%
Mexican	1294	1.73%
Puerto Rican	1818	2.43%
Cuban	138	0.18%
Other Hispanic or Latino	8541	11.41%
Not Hispanic or Latino	63057	84.25%
White alone	50945	68.06%

# Area Schools



The Location of the proposed site is ideal withing the location of all the area schools. The location is ideally located ini the center of the City, Downtown, and Main Street.

● = site

# Regulatory Environment



My proposed site at the intersection of Liberty St. and Main St. is located in the Commercial – Central Business District (C-CBD).



## 5.F. CENTRAL BUSINESS DISTRICT: C-CBD.

### 5.F.1. Purpose and Intent.

The purpose of this district is to allow a mixture of compatible uses which will strengthen the downtown as the social and economic focus of the City; to promote a cohesive downtown for the interaction of people and businesses; to stimulate investment; to improve vehicular access, safety, and parking; to facilitate pedestrian movement; and to provide a setting for community activities.



# Regulatory Environment



## 5.F.2. Uses

Land and structures may be used only for the following.

### a. Permitted Uses.

- (1) Banking or financial institutions.
- (2) Barber shop or beauty parlor.
- (3) Business or professional office.
- (4) Church or other place of worship. See Section 5.F.4.a.
- (5) Cleaning, laundering, dyeing or diaper service; laundromat. See Section 5.F.4.b.
- (6) Club.
- (7) Convenience market.
- (8) Dressmaker, locksmith, shoe repair, tailor, watch or jewelry repair.
- (9) Employment agency.
- (10) Entertainment and/or education center.
- (11) Firehouse.
- (12) Fraternal organization.
- (13) Funeral home.
- (14) Grocery store without the sale of alcoholic beverages. See also Section 5.F.2.c. below.
- (15) Health center, gymnasium, reducing salon, tanning salon or swim club. See Section 5.H.4.
- (16) Hotel or motel.
- (17) Indoor theater.
- (18) Institution for instruction in a skill or vocation.
- (19) Library.
- (20) Medical office, excluding medical offices or clinics those whose primary function is the treatment of drug addiction or substance abuse.
- (21) Museum.
- (22) Nursery, kindergarten, elementary, or secondary school. See Section 5.F.4.c.
- (23) One family dwelling. See Section 5.F.4.d.
- (24) Park, playground, or recreation facility, skating rink.
- (25) Parking area or parking garage.
- (26) Photographic studio.
- (27) Physical medicine facility.
- (28) Police station.
- (29) Post office, mailing agency, parcel delivery.
- (30) Radio or television station, excluding transmitting towers.
- (31) Real estate or insurance agency.
- (32) Restaurant, fast food restaurant, or café, without the sale of alcoholic beverages. See also Section 5.F.2.c. below.
- (33) Retail stores and shops, except package store. See also Section 5.F.2.c. below.
- (34) Shelter for the homeless with no greater than twenty beds.
- (35) Telephone exchange, sewer and water pumping station.



# Regulatory Environment



## 5.F.3. General Use Regulations.

- a. Unless otherwise specified or modified below, the following regulations shall apply to all uses specified in Section 5.F.2 in the C-CBD Zoning District. See Section 7.E. for regulations pertaining to setbacks, height and other restrictions for development within the Main Street Historic District.

Minimum lot area, sq. ft.	None
Minimum lot width, ft.	None
Minimum front yard setback, ft.	None (See §7.E. for the Main Street Historic District)
Minimum side yard setback, ft.	None
Minimum rear yard setback, ft.	None
Maximum height, ft.	Within the Main Street Historic District: 55 feet, maximum of five stories. Outside the Main Street Historic District: 105 feet, maximum of ten stories, on any lot or portion thereof, provided that any portion of a building over 55 feet in height shall be setback from the front lot line a distance of 18 feet for each additional 10 feet of height, or portion thereof, over 55 feet in height above grade at the right-of-way, and provided further that any building with a maximum height of greater than 75 feet shall have a minimum lot area of 2 acres, a minimum lot width of 200 feet, and be setback a minimum of 25 feet from any side or rear lot line.

Maximum building coverage 100%

- b. Development of lots must include all provisions for parking and loading in accord with Section 8.C. of these Regulations.
- c. No restaurant, including fast food restaurants, and no retail store or shop may be accessed by a drive-in or drive-through facility or use by which food, beverages, or products are dispensed to patrons within motor vehicles.

## 8.C. OFF-STREET PARKING AND LOADING.

### 8.C.1. General Requirements.

#### a. Application.

Parking facilities off the street right-of-way shall be provided to serve all uses, changes in use, or buildings erected, altered, or increased in floor area from that which existed on the date of adoption of these Regulations, except where such change of use, new building, alteration, or increase in floor area will require no increase in parking under Section 8.C.4. of these Regulations over what presently exists.

#### b. Shared Parking.

(1) Parking facilities serving primarily a nighttime or weekend use may, by special exception of the Planning Commission, be counted proportionately as facilities for a primary daytime or weekday use, and vice versa, when each use is assured permanent access to the facilities of the other use, and when there will be no substantial overlapping in parking periods.

(2) In the C-CBD zoning district, the amount of required parking for retail and personal service uses, for business and professional offices, and for medical offices, as specified in Sections 8.C.4.c.(9), 8.C.4.c.(10), and 8.C.4.c.(11a), respectively, may be reduced as follows for uses located within five hundred (500) feet of a public parking facility, provided the Planning Department determines that the reduced number of spaces will be adequate for the uses for which they are intended to serve: 1 per 250 square feet of total usable floor area for retail and medical offices, and 1 per 400 square feet of total usable floor area in use for business and professional offices or personal service uses.

(3) Parking facilities shall be on the same lot with the principal use, except that in commercial, industrial, and RH-3 districts, all or part of the required facilities can be provided on a lot under the same ownership or long term lease or under public ownership, the pedestrian entrance to which is within five hundred (500) feet walking distance to a pedestrian entrance to the principal use being served.

(4) For uses located within the Redevelopment Area, public off-site parking may be provided for uses in accordance with the Redevelopment Plan, as amended, provided that the City receives a fee in lieu of the required parking in an amount equal to the actual or estimated cost of providing said parking by the City and that the Planning Department certifies that the City will provide the required parking within a reasonable time following receipt of said fees and that existing parking will be adequate to meet the interim needs of the use.

(5) Notwithstanding other provisions in Section 8.C.1.b., in the case of special events not regularly held on a daily basis as part of an approved use in the C-CBD Zoning District which shall generate parking demand in excess of that provided for the approved use, the facility owner or operator shall provide the Director of Planning, or his/her designee, with a parking report for special events containing evidence that sufficient additional parking will be available for the event.

The parking report shall be submitted 15 days prior to the event, and shall include: (a) the name, address, telephone number and, if available, the fax or e-mail address of the owner or his/her agent of the approved use proposed to host the event; (b) the name, address and tax assessor's map parcel number of the approved use hosting the event; (c) the date(s) of the event; (d) the amount of required parking provided for the approved use; (e) the amount of additional parking required for the special event; (f) the location of all required additional parking to be provided; and, (g) documentation from the owner(s) of all sites on which the additional parking is to be located attesting to the availability of additional parking spaces for the event. The Director of Planning, or his/her designee, shall approve such parking report if it complies with the requirements of this subsection (5). The Director shall act on the report no later than five

# Regulatory Environment



business days after the submission of the parking report. Failure to act within such five day period shall constitute approval of the parking report.

The facility owner or operator holding events scheduled to be held periodically during the year or season may submit one report providing the required information covering all such scheduled events. The installation of additional permanent seating designed to accommodate special events shall require the submission of a revised site plan for approval showing all such seating and the amount of additional parking required to be provided and indicating the location(s) of such additional parking as stated in the parking report.

If all or part of the additional parking spaces required for the event are not located on the same lot as the principal use, all or part of the required spaces for the event may be provided on a lot under the same ownership or with a lease agreement on property under separate ownership, or under public ownership, provided the pedestrian entrance is within one thousand (1,000) feet walking distance to the pedestrian entrance of the approved use hosting the event. Parking facilities serving primarily a nighttime or weekend use or event may be counted proportionately as facilities for primarily a daytime or weekday use or event, and vice versa, when each use is assured permanent access to the facilities of the other use, and when there will be no substantial overlapping in parking periods.

For the purpose of this sub-section, special events shall be limited to accessory uses customarily associated with the approved use and limited in duration to 52 events per year per approved use. This parking requirement shall not pertain to exemptions specified in §10.B.1.g.

## c. Parking in Front Yards.

Parking spaces in required front yards shall not be permitted, except if specifically permitted elsewhere herein.

## REQUIRED OFF-STREET PARKING SPACES

a. Agricultural and Recreational Uses.	1 per employee, plus 1 per 5 adult memberships or enrollments.
(1) Campgrounds, etc. with building, country clubs and the like.	As determined by the Planning Commission.
(2) Open recreational uses.	1 per linear feet of frontage used for sheltered display or for sales.
(3) Open roadside stand.	
b. Business Uses, Automotive.	10 per fixed stall equipped for washing, drying, etc. Parking spaces in this case need not be stalls but may be waiting space in driveway.
(1) Automobile washing establishment.	2 per service bay if station provides repairs, otherwise 1 per pump, plus 1 per 150 usable gross sq.ft. of retail area.
(2) Automobile service station.	

For Additional Information on Parking See Appendix



# Regulatory Environment



## 8.E.4. Sign Regulations in the Central Business District.

The following regulations shall apply to signs in the C-CBD Zoning District.

### a. Non-Residential Signs.

#### (1) Wall signs and signs on canopies and awnings.

(a) The total sign face area of all wall signs and signs on canopies and awnings allowed on each exterior building wall, exclusive of signs exempted in Section 8.E.8., shall not exceed: (1) one and one-half (1½) square feet of sign face area for each foot of length of said exterior building wall on which the sign is affixed or length of that portion of said wall which is devoted to such business to which the sign(s) refer, or (2) one hundred fifty (150) square feet of total sign face area on each exterior building wall, whichever is less. Wall signs and signs on canopies and awnings shall be confined to that portion of the exterior building wall where the business to which the sign(s) refers is located.

(b) Canopies and awnings. Canopies and awnings are considered part of the building to which they are attached and any sign face on such shall be considered a wall sign and subject to these regulations. Canopies and awnings shall not extend more than five feet (5') over a public right-of-way and shall allow a clearance over the public right-of-way of no less than eight feet (8') above ground level.

(2) Hanging or projecting signs. On each exterior building wall, the total sign face area of all sides of hanging and projecting signs shall not exceed twelve (12) square feet. The bottom of any such sign shall be located no less than eight (8) feet above grade and the top of same shall not extend above twenty (20) feet from ground level. Said sign(s) shall not project or extend more than three (3) feet from the building wall and shall not project over or beyond the property line of the lot on which the building is located, except that hanging or projecting signs may project up to eighteen inches (18") over public sidewalks.

#### (3) Freestanding signs (excluding billboards regulated in §8.E.10).

Only one freestanding sign with no more than one sign face per side shall be permitted for each three hundred (300) feet of street frontage, with a minimum of one freestanding sign permitted per lot. Such signs faces located within fifty (50) feet of a public right-of-way shall not exceed twelve (12) square feet per side; freestanding signs located greater than fifty (50) feet from a public right-of-way shall not exceed twenty-five (25) square feet of sign face per side.

Notwithstanding the above, freestanding signs not exceeding six feet in total sign height may be placed closer than the spacing limitations specified, provided the total of all freestanding signs regardless of height do not exceed the size limitations specified above.

#### (4) Flags.

Flags are permitted provided that the total area of each side of all flags shall not exceed ninety-six (96) square feet per lot, and that any illumination of a flag shall be confined to the surface of the flag.

#### (5) Window or door signs.

Window signs or signs on door windows are permitted, provided (1) they shall only be painted on or affixed to the interior face of windows or door windows and (2) the total sign face area does not exceed fifteen (15) percent of each window or door window area through which such signs are painted on or affixed. Said signs shall not be used to compute allowances for total sign areas specified herein.

(6) Portable signs. Portable signs shall (a) have a maximum of two (2) sides per sign, (b) be limited to a maximum size of six (6) square feet per side, and (c) not be located within a public right-of-way. No more than one portable sign shall be located on each lot.

#### (7) General provisions.

(a) No letter on any sign located within fifty (50) feet of a public right-of-way shall exceed eighteen (18) inches in height or width; no letter on any sign located greater than fifty (50) feet from a public right-of-way shall exceed twenty-four (24) inches in height or width.

(b) No portion of any wall, freestanding, hanging or projecting sign shall be located higher than twenty (20) feet above ground level.

### b. Residential signs.

Signs for dwelling units in the C-CBD zone shall conform with and be regulated by Section 8.E.2.a-e. All such signs shall be included in computing the total area of signs permitted on the building or lot, except signs exempted in Section 8.E.8.



# Precedent Analysis



The new, 50,000 sf, two-level recreation center includes a gymnasium, fitness areas, an elevated running track, wrestling/boxing studio, locker rooms, multipurpose rooms, community rooms, a kitchen, classrooms and administration areas. The structure is conventional steel beam and column framing with a masonry exterior. Located in a city similar to the size of Danbury, it has many of the amenities proposed for the new YMCA. The main difference is the sheer size. The total square footage is about half of the proposed building.



Owner: City of Fort Collins

Architect: Aller-Lingle Architects, P.C.

Construction Cost: \$8,625,548

Delivery: Design-Build



# Precedent Analysis



## Town of Parker Fieldhouse

The building's exterior presents a variety of colors, textures and angles, with certain repeated forms creating an overall sense of structural harmony. Once inside, visitors experience views into various activity spaces on both upper and lower levels. Amenities include two regulation basketball courts that are convertible to four youth courts, batting cages, volleyball courts, a 25-foot climbing wall and attached bouldering structure, a fitness center, a running track, a 185-by-85-foot inline hockey rink, and a 170-by-85-foot synthetic turf field accommodating soccer, lacrosse and flag football. Multiple open stairways, exposed beams, buffed concrete floors and overhead light fixtures lend an industrial loft feel to the building's circulation points. Fittingly, the climbing and bouldering structures are placed next to a two-story glass wall offering mountain views.





# Precedent Analysis



Architect: Sink Combs Dethlefs Denver, Colo.

Cost: \$12.4 million

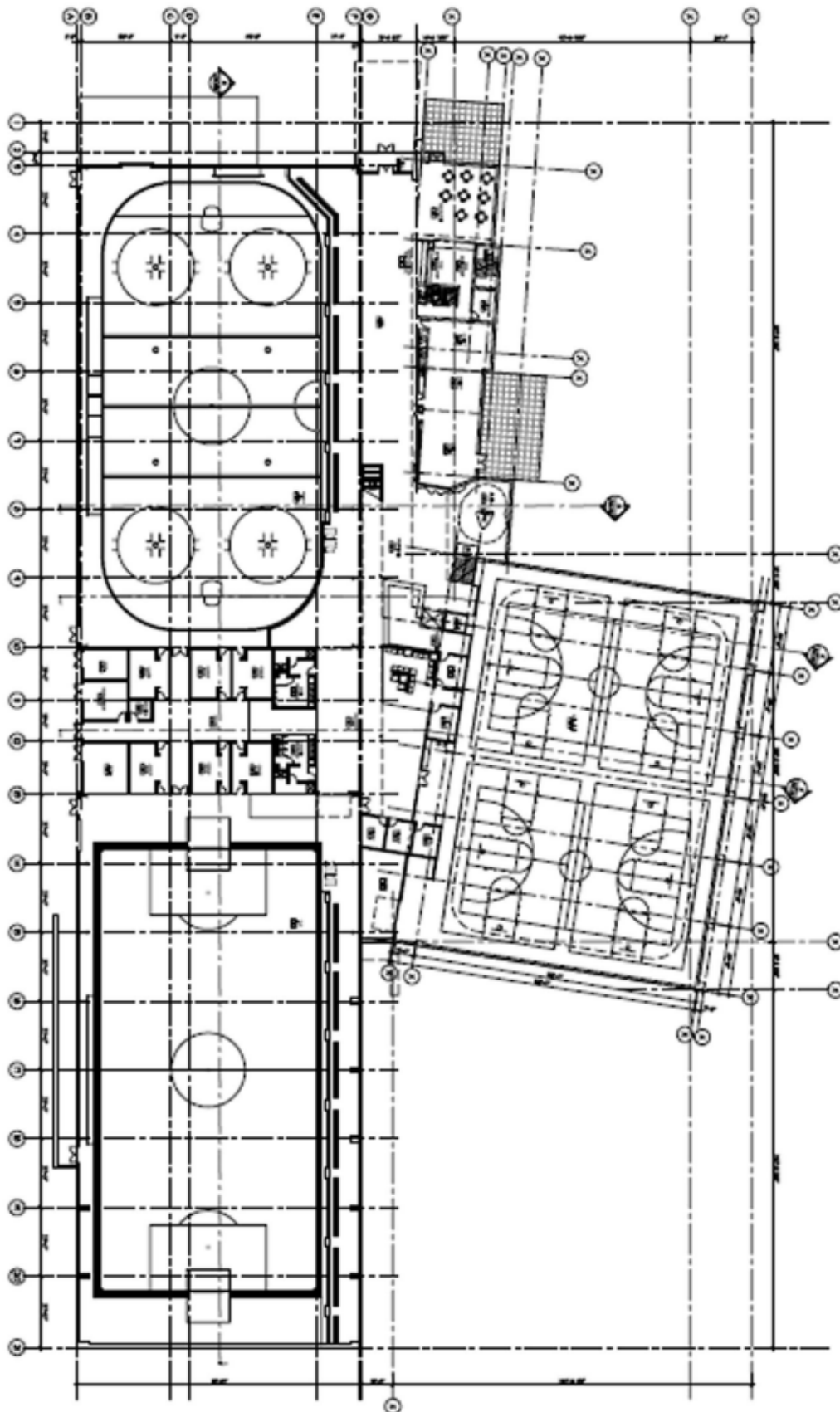
Square Feet: 100,000

Occupancy: June 2007

Associated Firm: Norris Design Denver, Colo.

<http://www.architecturalshowcase.com/2008/project.aspx?id=67>

# Precedent Analysis





# Precedent Analysis



## Gary Comer Youth Center

As the home of the South Shore Drill Team, the facility centers around an adaptable gym space that converts to a 600-seat performance theater. Spaces for education and recreation programs wrap around the gym, some visible from the outside. Slot windows pepper a facade in which large expanses of glass are limited, partly to make the building and its inhabitants less vulnerable to gun violence. But the interior features extensive glazing, and skylights bring natural light into the gym and cafeteria. Jurors liked the way the building turned its "solid skin to the street side, and then opened up inside."

Among the many green-roof entries, the youth center's stood out as "exceptional," jurors said. Classrooms, offices, and exhibition spaces on the third floor overlook an 8,400-square-foot (780-square-meter) planted roof garden above the gym/theater and cafeteria. A generous 24-inch (61-centimeter) soil depth allows children to plant vegetables to be used in cooking classes in the center's kitchen. The skylights are integrated into this green landscape.

I Chose to use this as a precedent because of its location in an Urban setting as well as its capability to reuse one particular space for multiple activities.

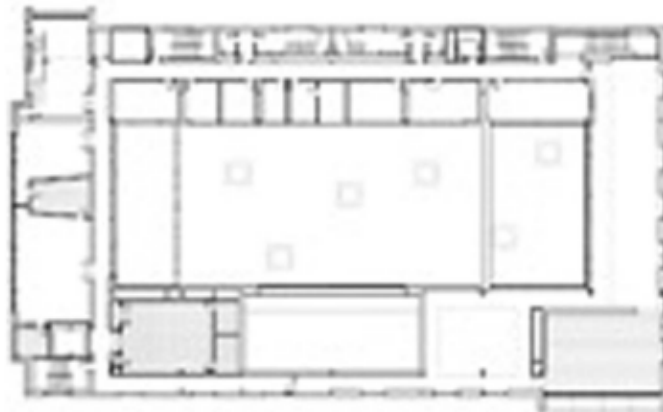
[http://www.architectureweek.com/2007/1107/news\\_1-2.html](http://www.architectureweek.com/2007/1107/news_1-2.html)



# Precedent Analysis



Shows the adaptable space for sports and performances



Shows the linear organization of service spaces

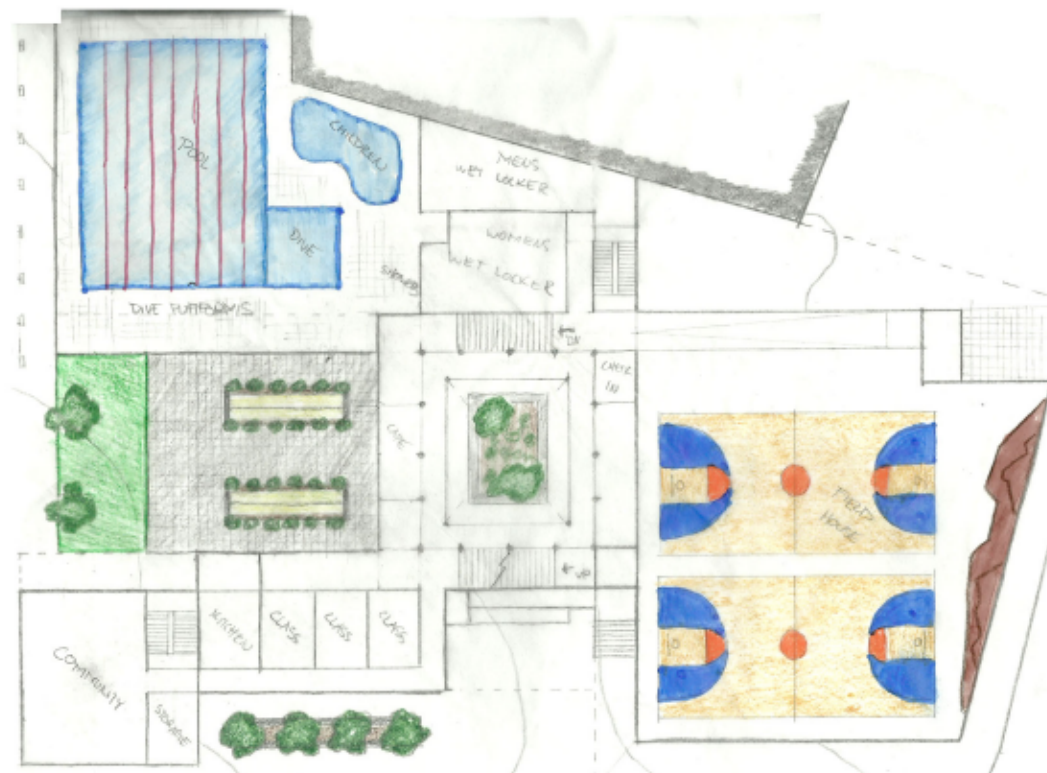
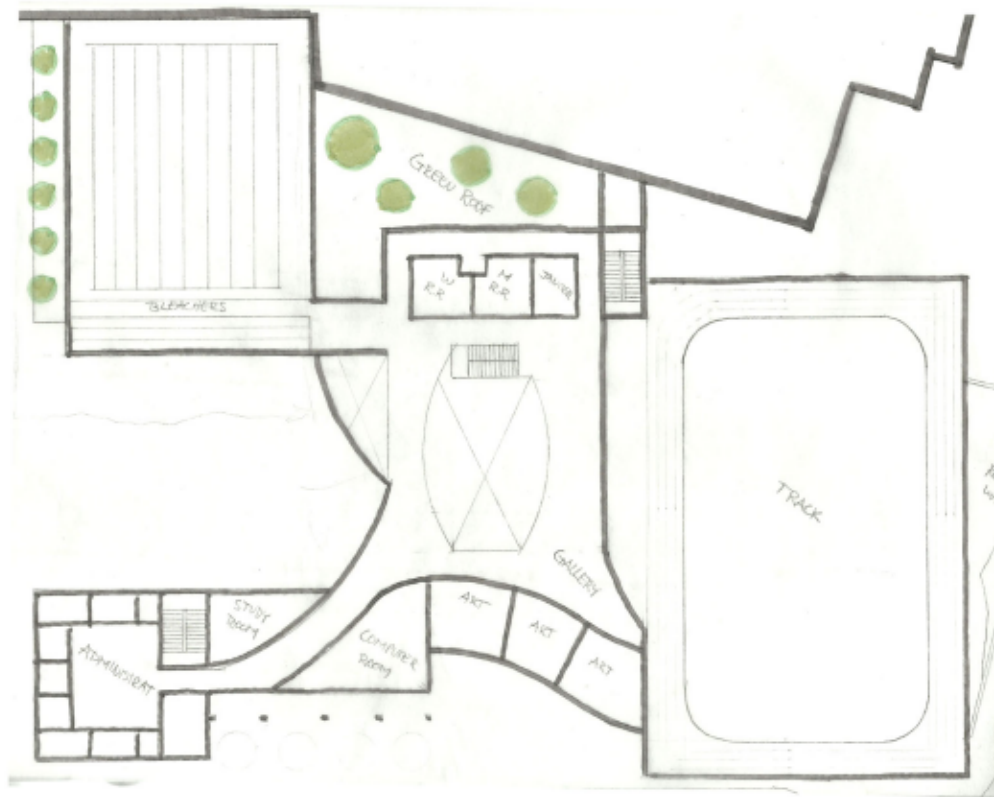


Shows the sectional quality of fitting a variety of spaces in a confined urban area



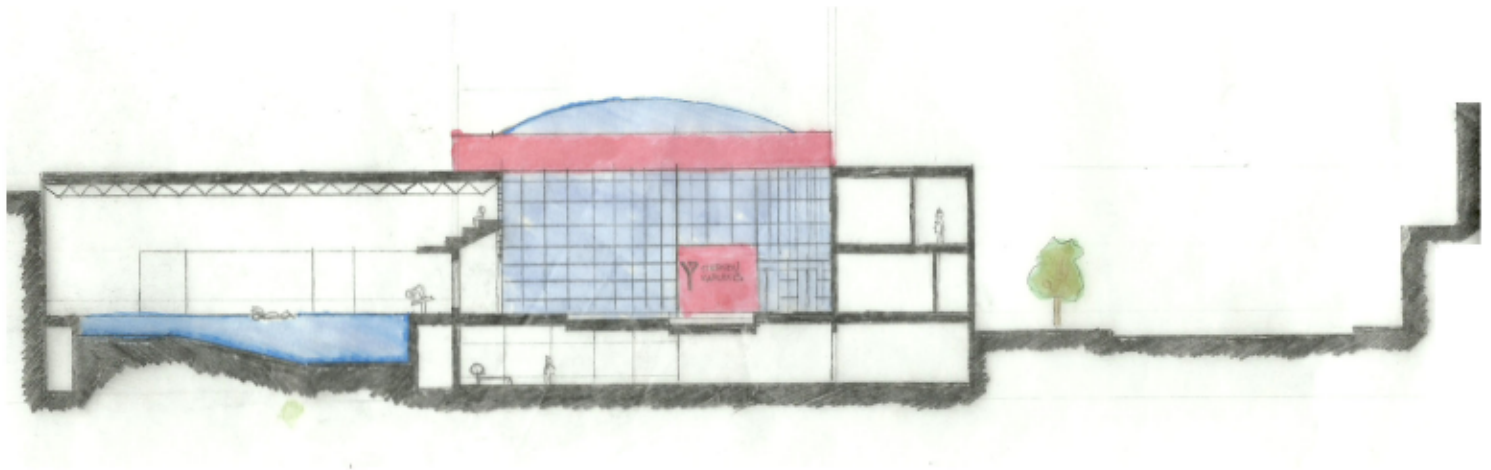
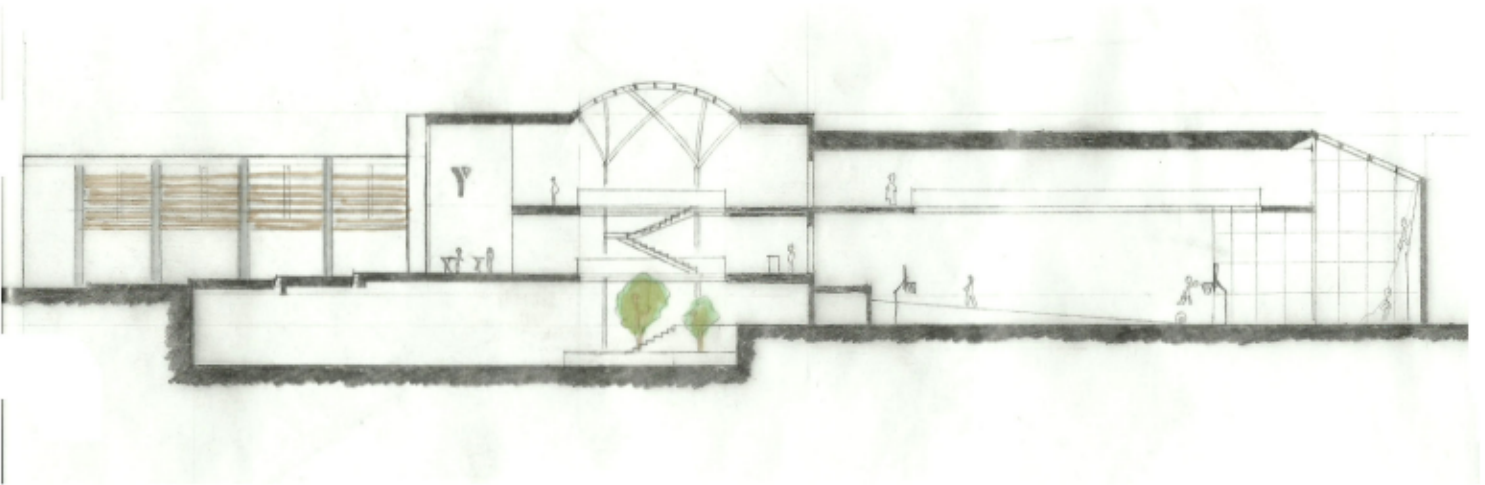
# Schematic Design

# Schematic Design





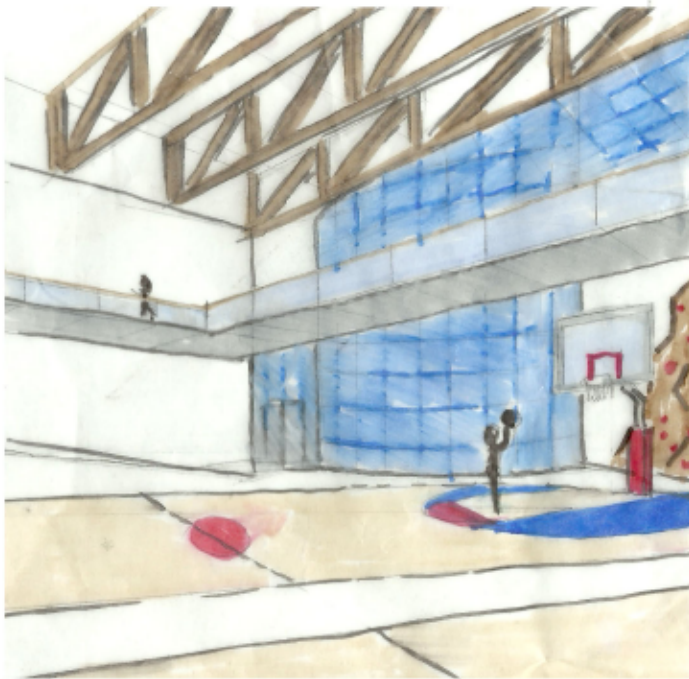
# Schematic Design



# Schematic Design

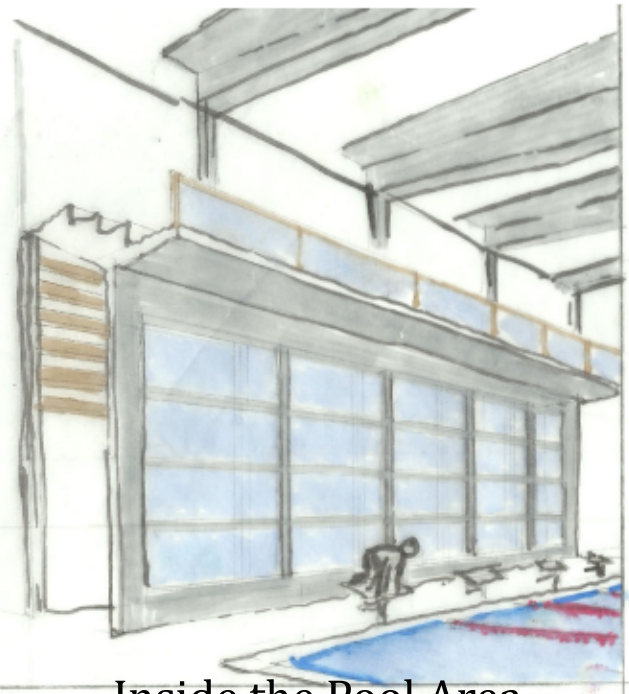


The Main Stair



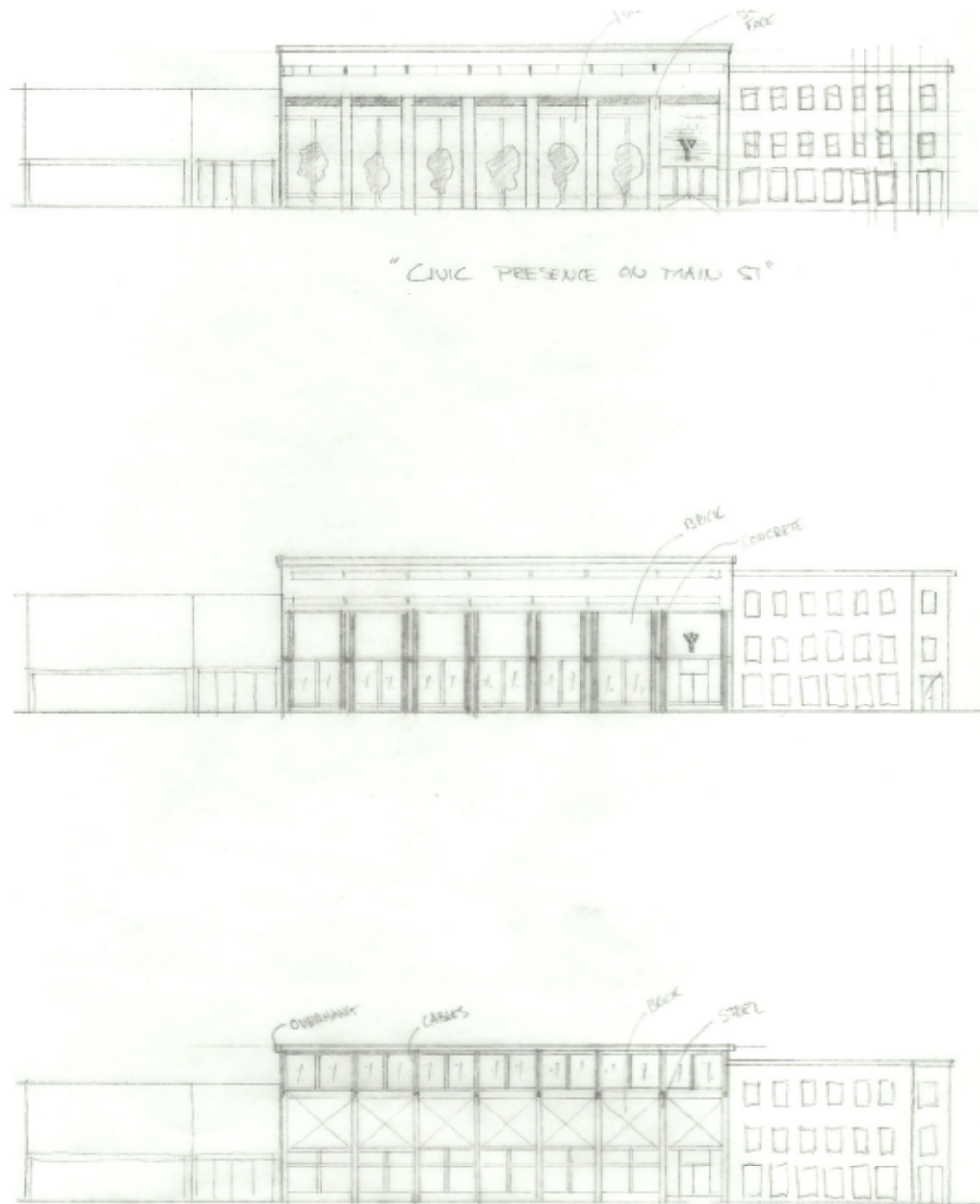
Inside the Field House

These sketches were a series of drawings investigating quickly what some of the major spaces in the YMCA would look like.



Inside the Pool Area

# Schematic Design



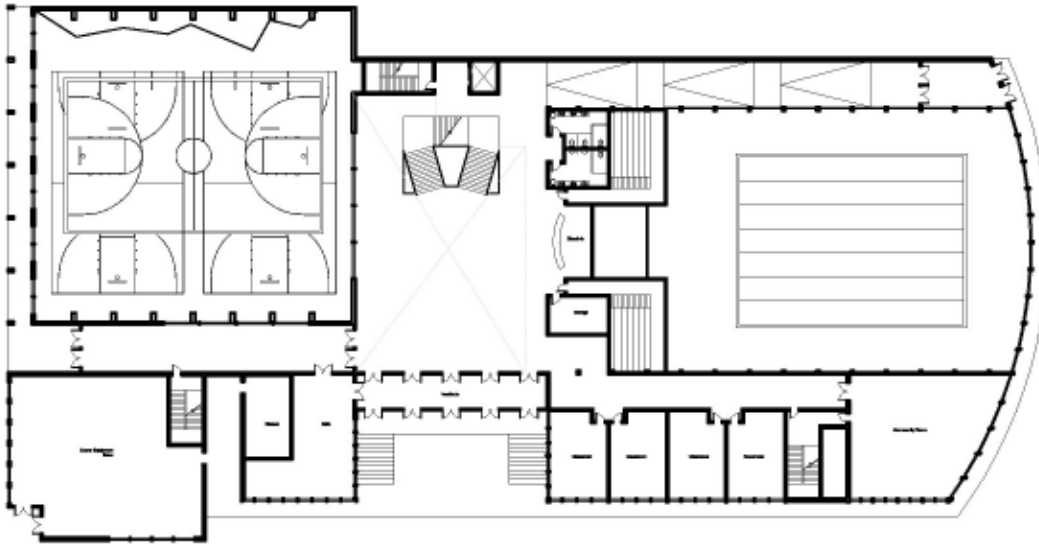
This series of elevations were done to compare different material types on Main Street. For example steel or concrete columns for the colonnade.



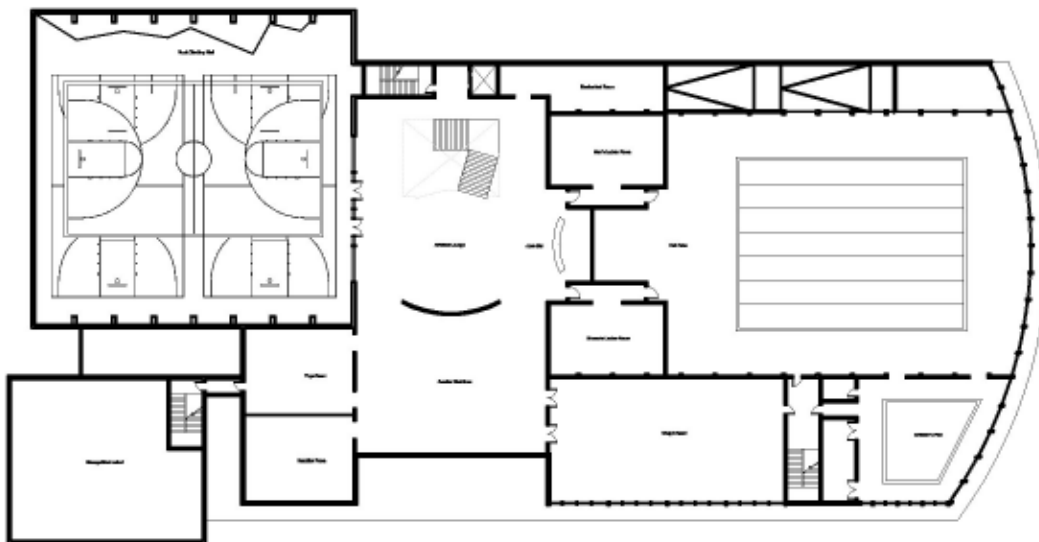
# Design Development



# Design Development



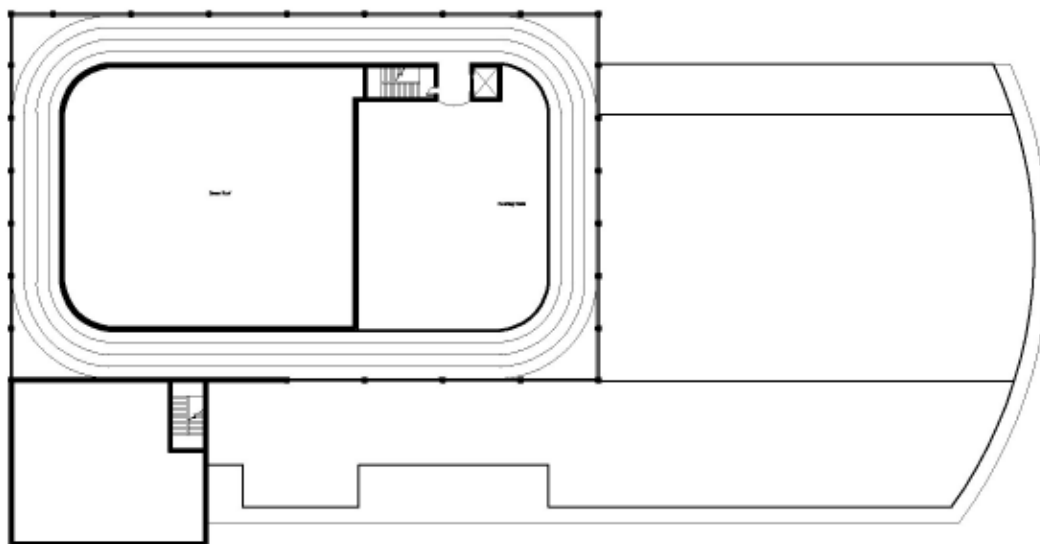
Entrance Floor Plan



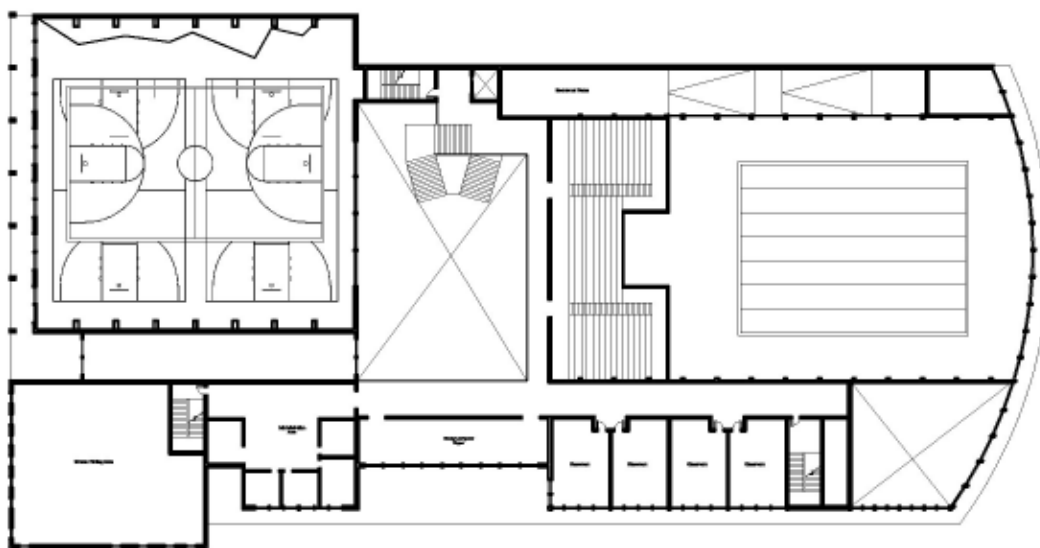
Athletic Floor Plan



# Design Development

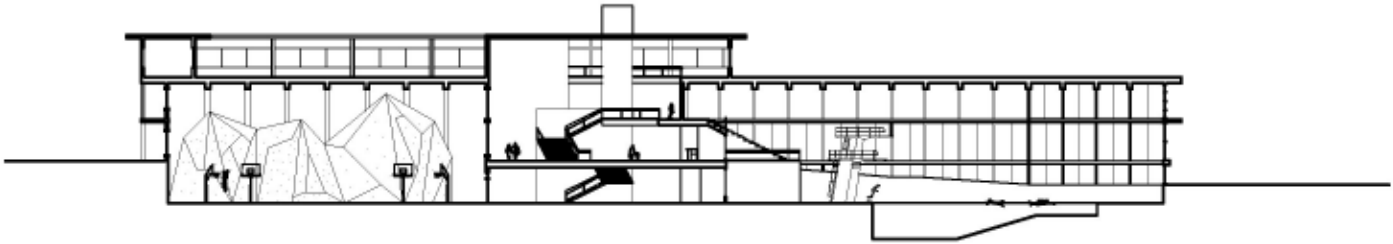


Sky Track Floor Plan



Observation Floor Plan

# Design Development



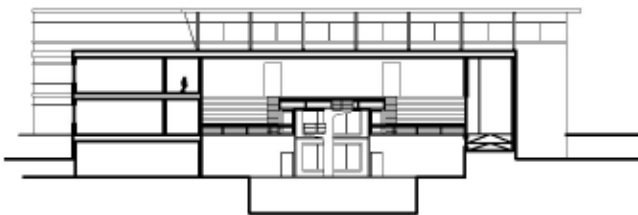
Longitudinal Section



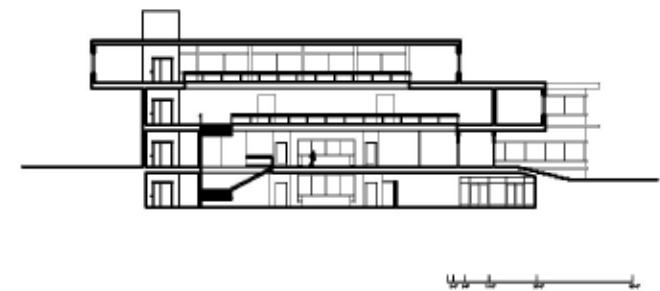
Field House  
Cross Section



Field House  
Cross Section

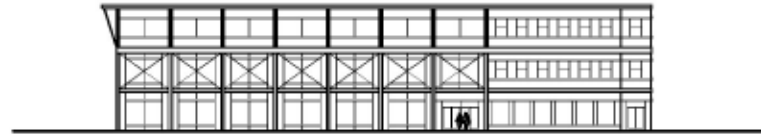


Pool  
Cross Section



Gathering  
Cross Section

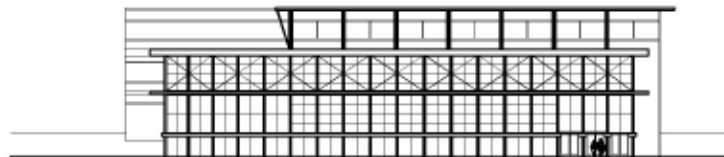
# Design Development



Main Street  
Elevation



Liberty Street  
Elevation



Delay Street  
Elevation

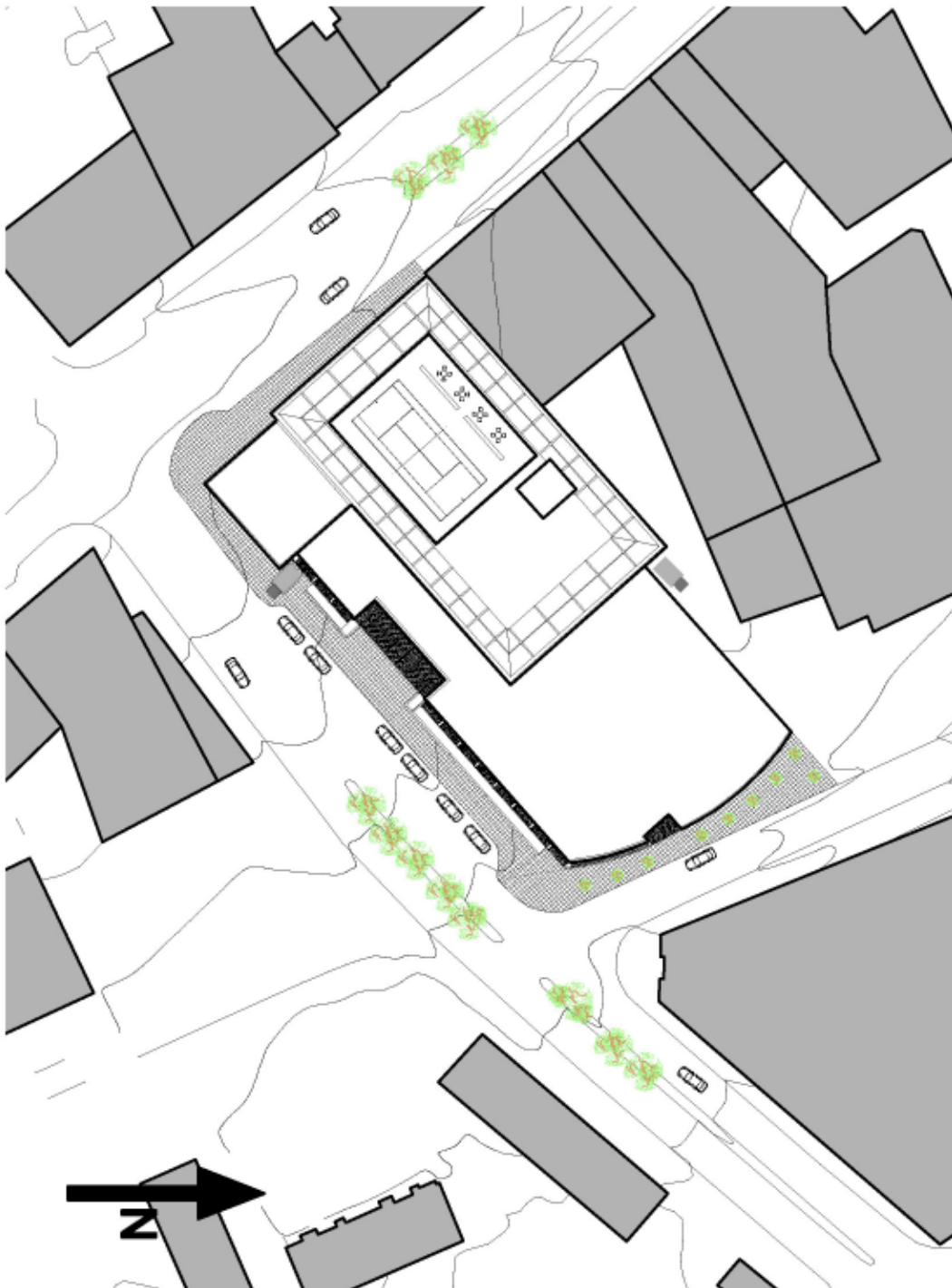






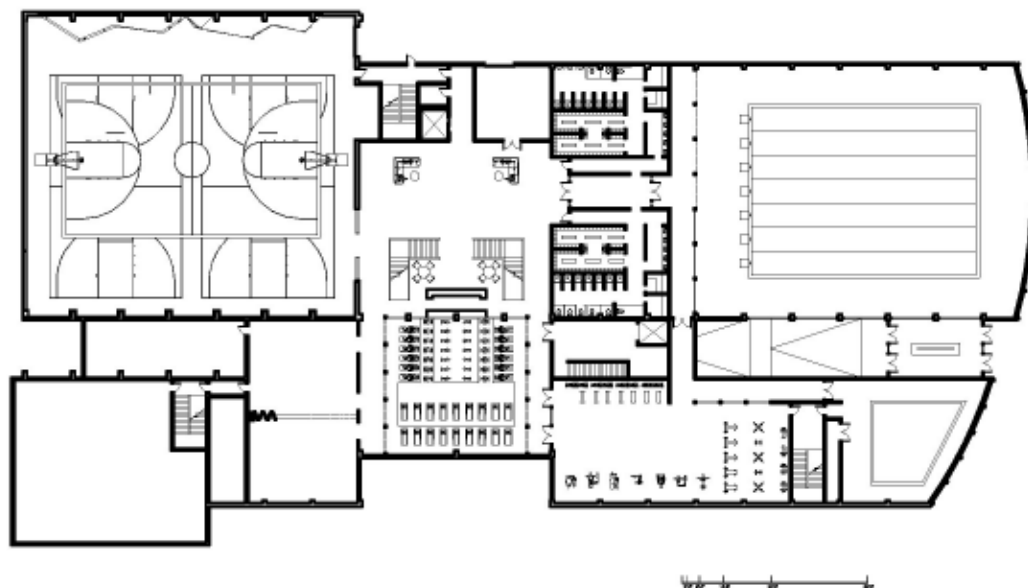
# Final Design

# Final Design

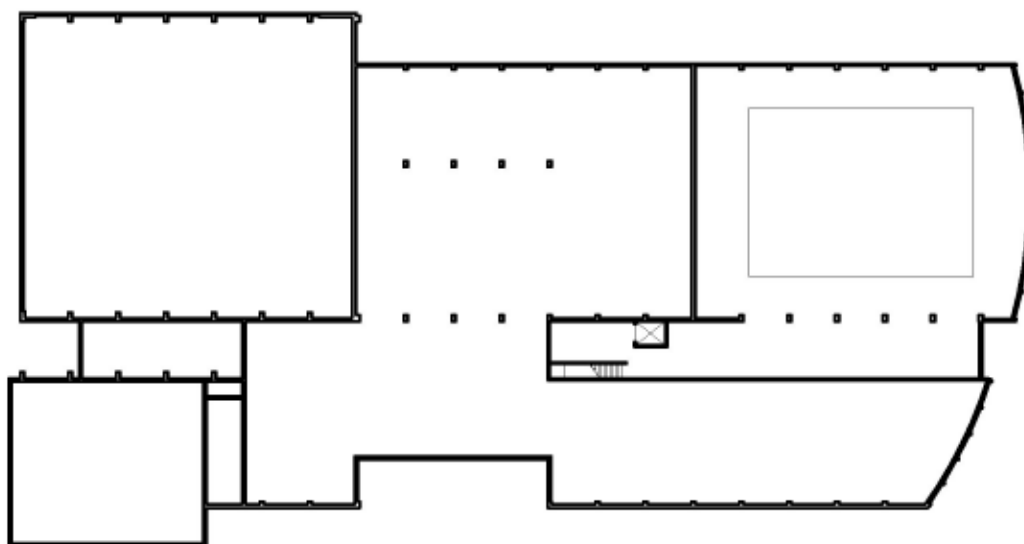


Site Plan

# Final Design



Athletic Floor Plan



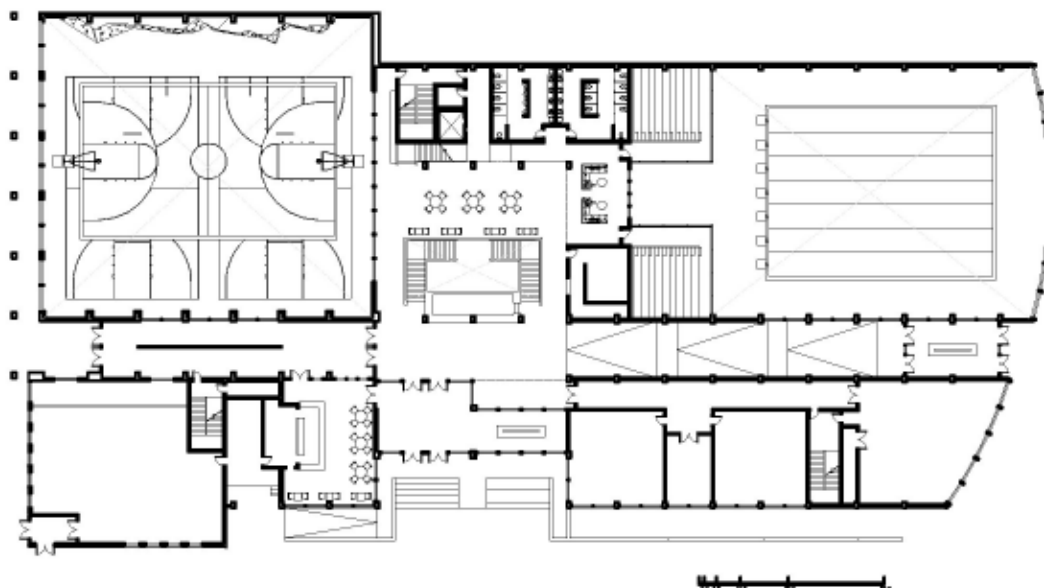
Foundation Floor Plan



# Final Design

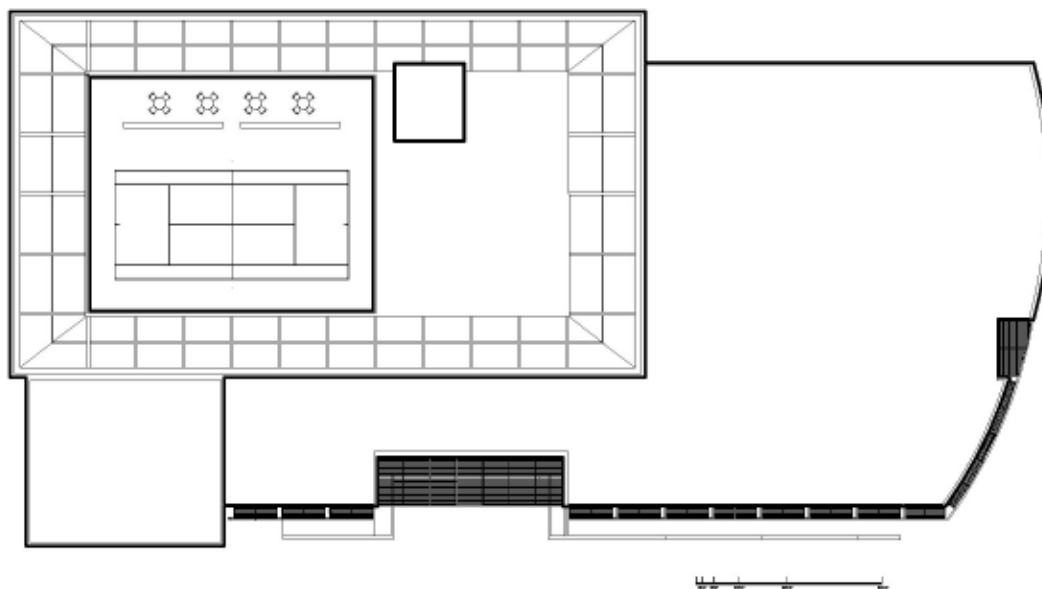


Observation Floor

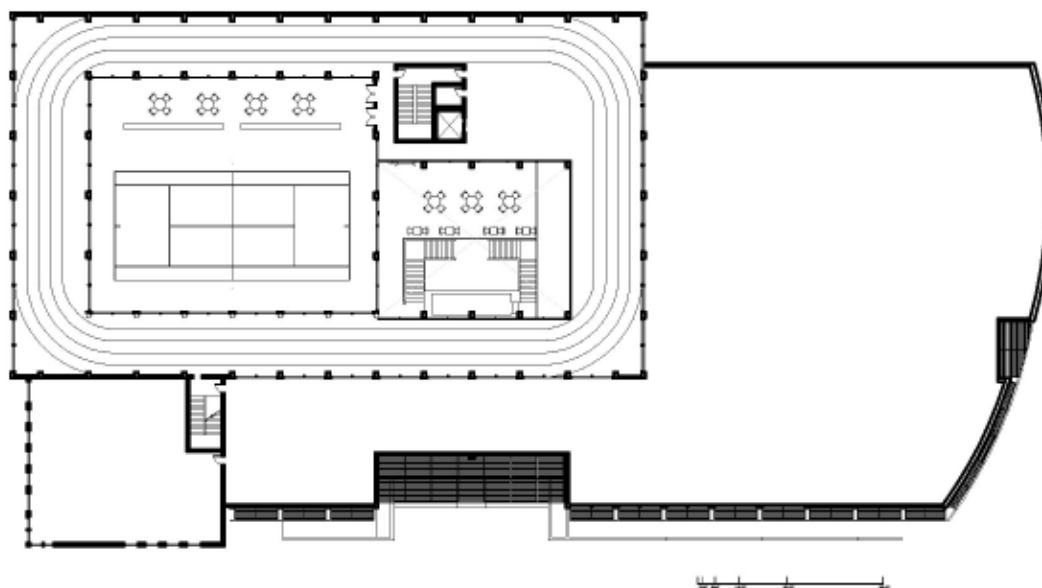


Entrance Floor Plan

# Final Design



Roof Floor Plan



Sky Track Floor Plan

# Final Design



Lobby Section



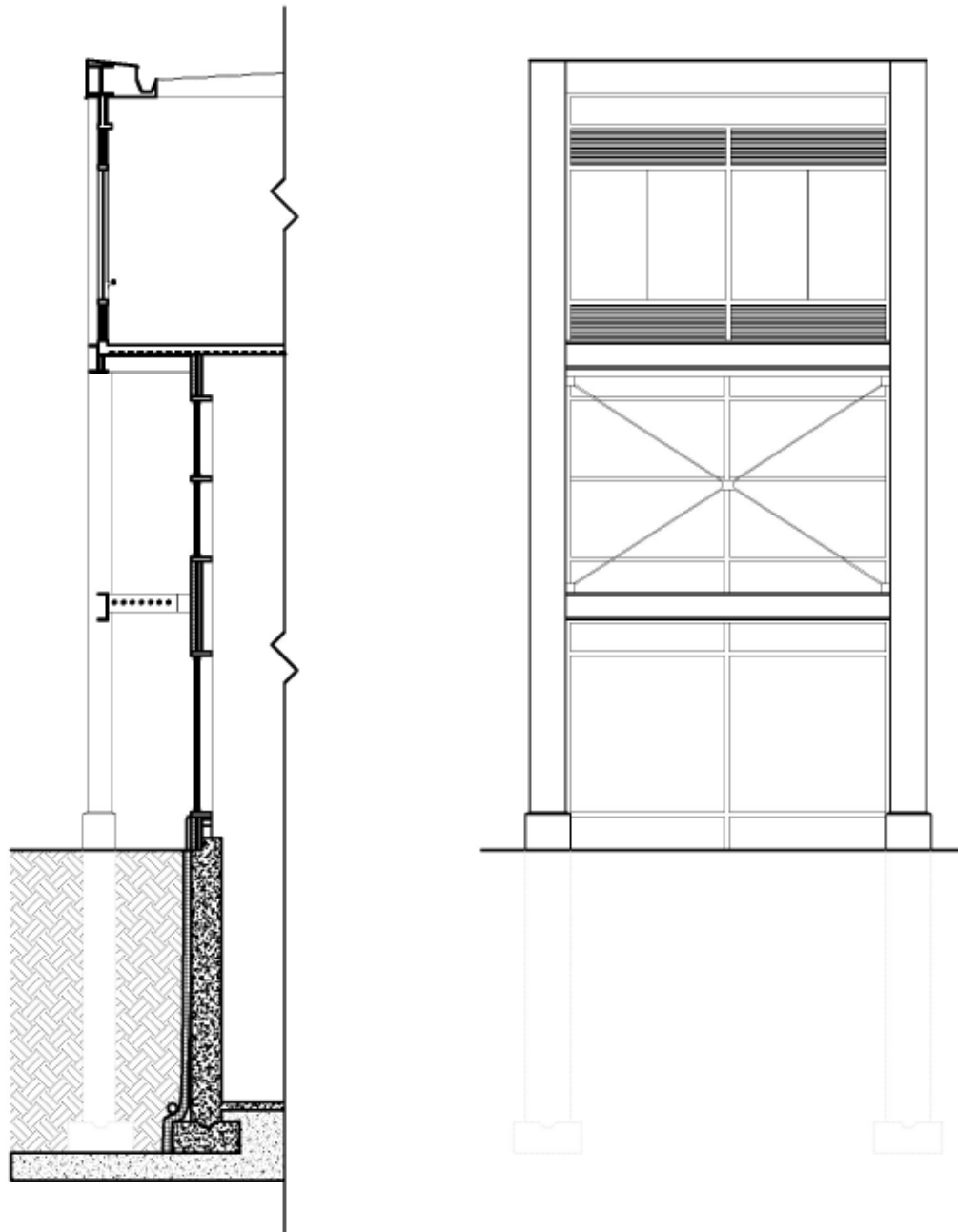
Pool Section



Field House Section



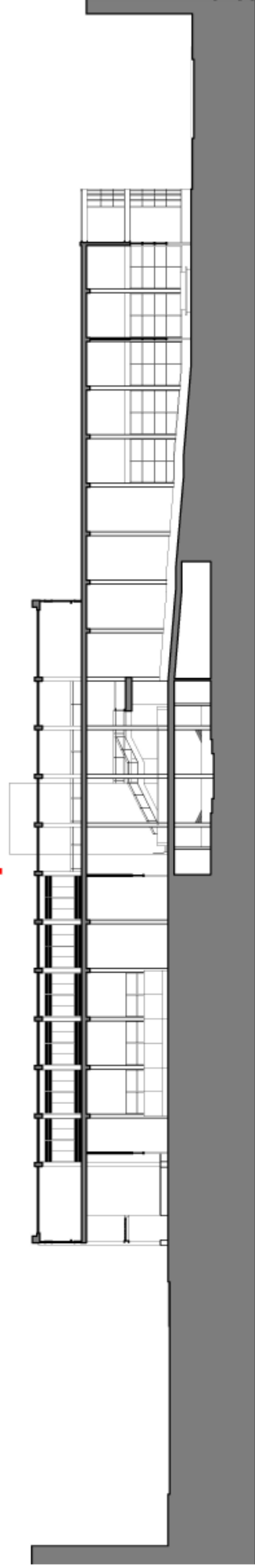
# Final Design



Typical Wall Section



# Final Design



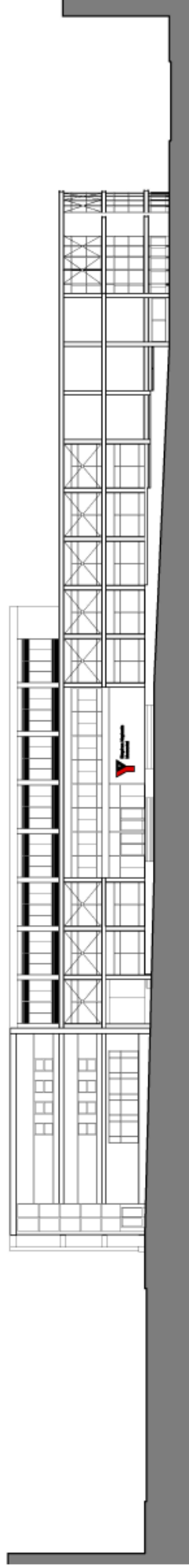
Longitudinal Section (Gallery)



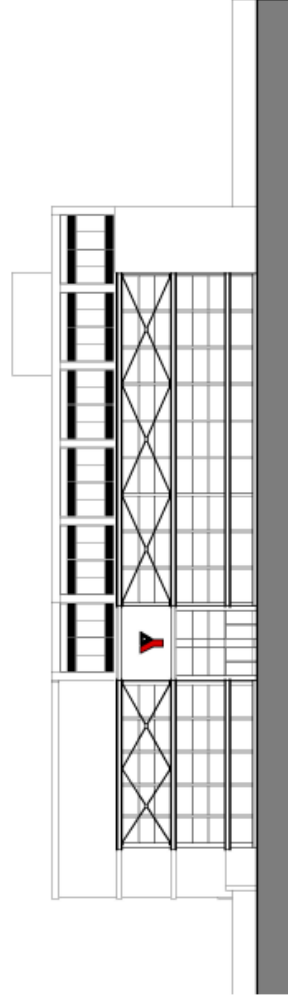
Longitudinal Section (Field House and Pool)



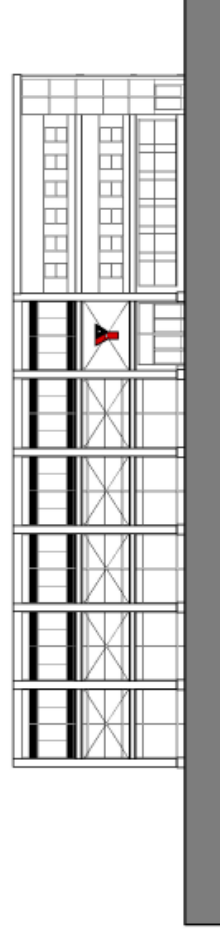
# Final Design



Liberty Street Elevation



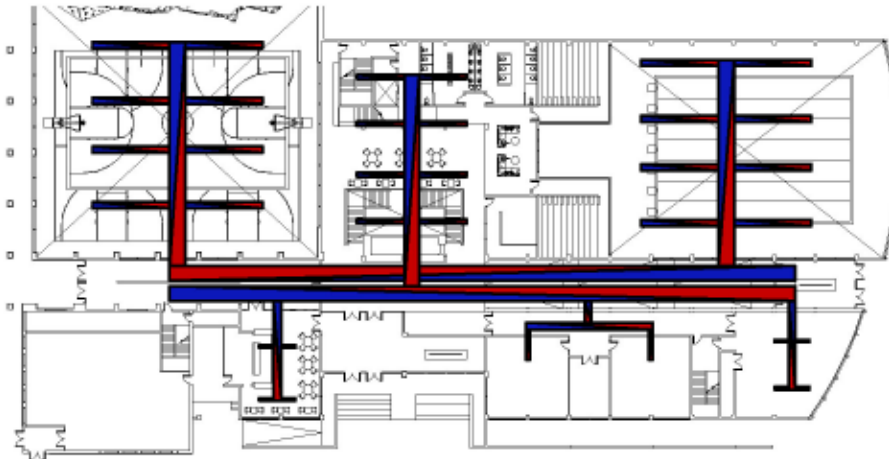
Delay Street Elevation



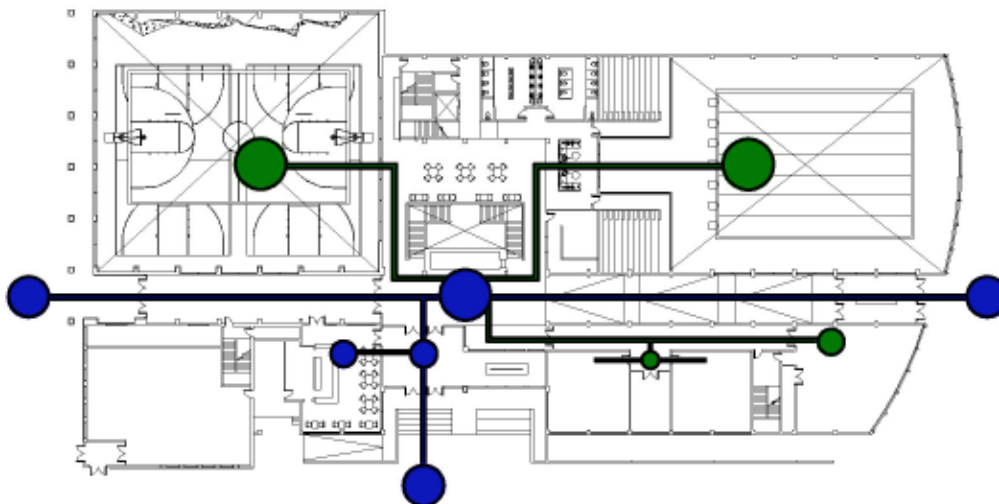
Main Street Elevation



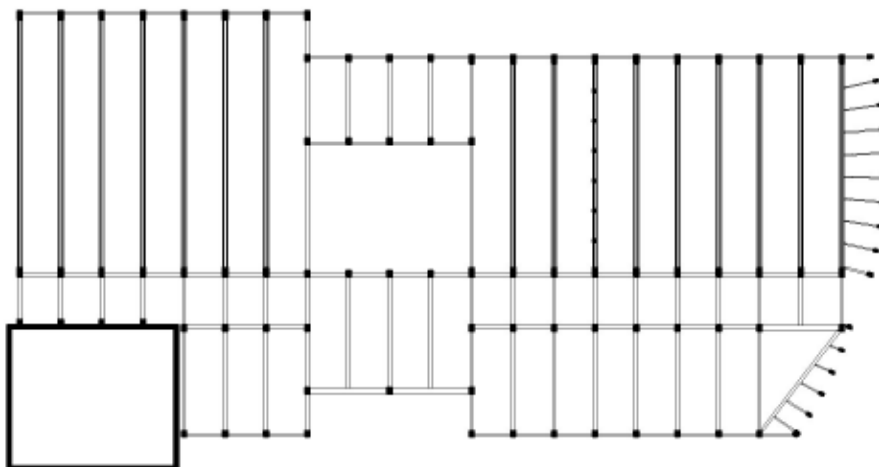
# Final Design



HVAC  
Diagram

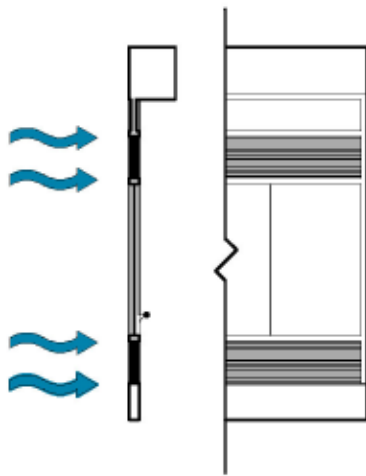


Circulation  
Diagram

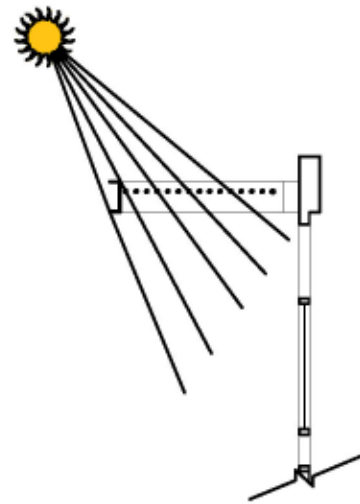


Structural  
Diagram

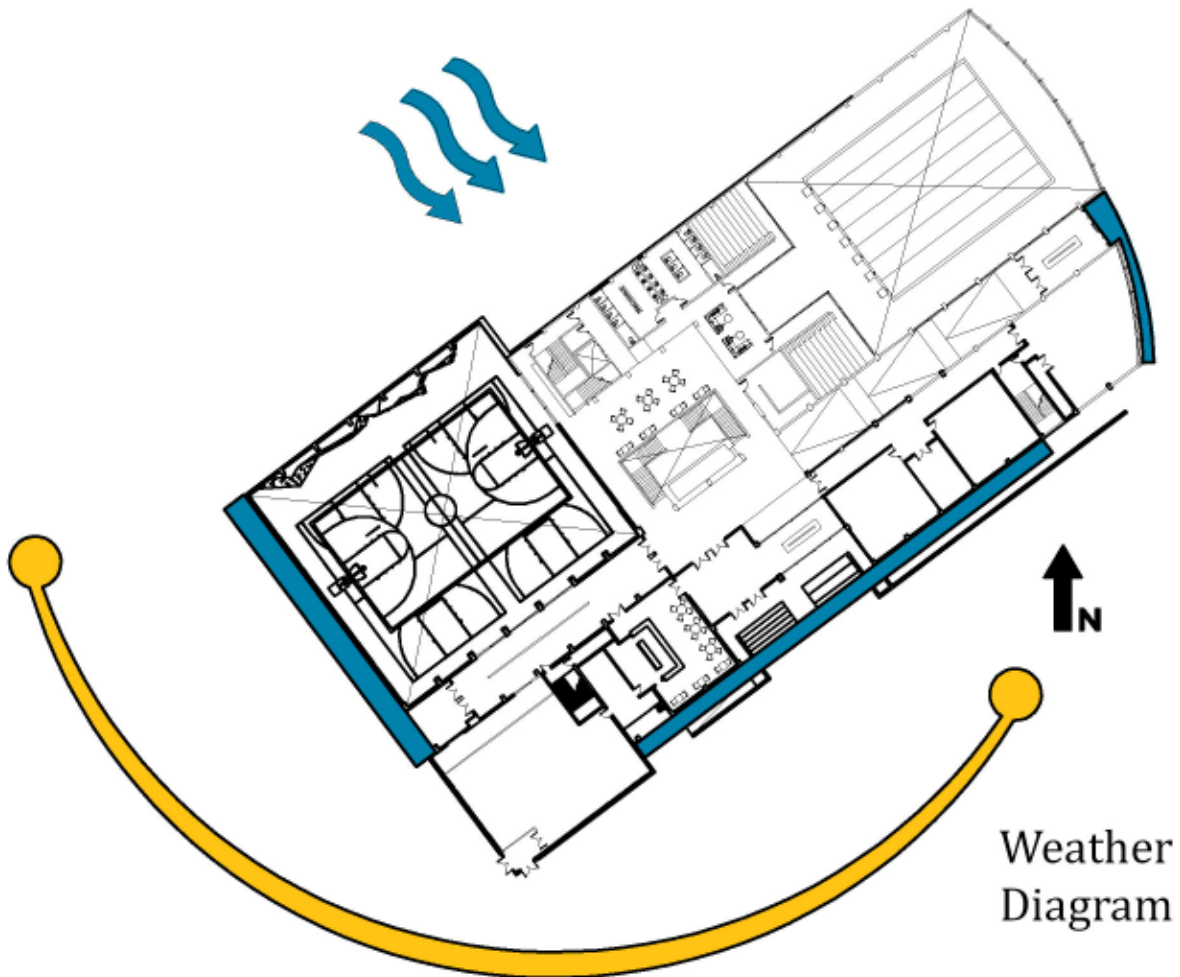
# Final Design



Wind/Vent Diagram



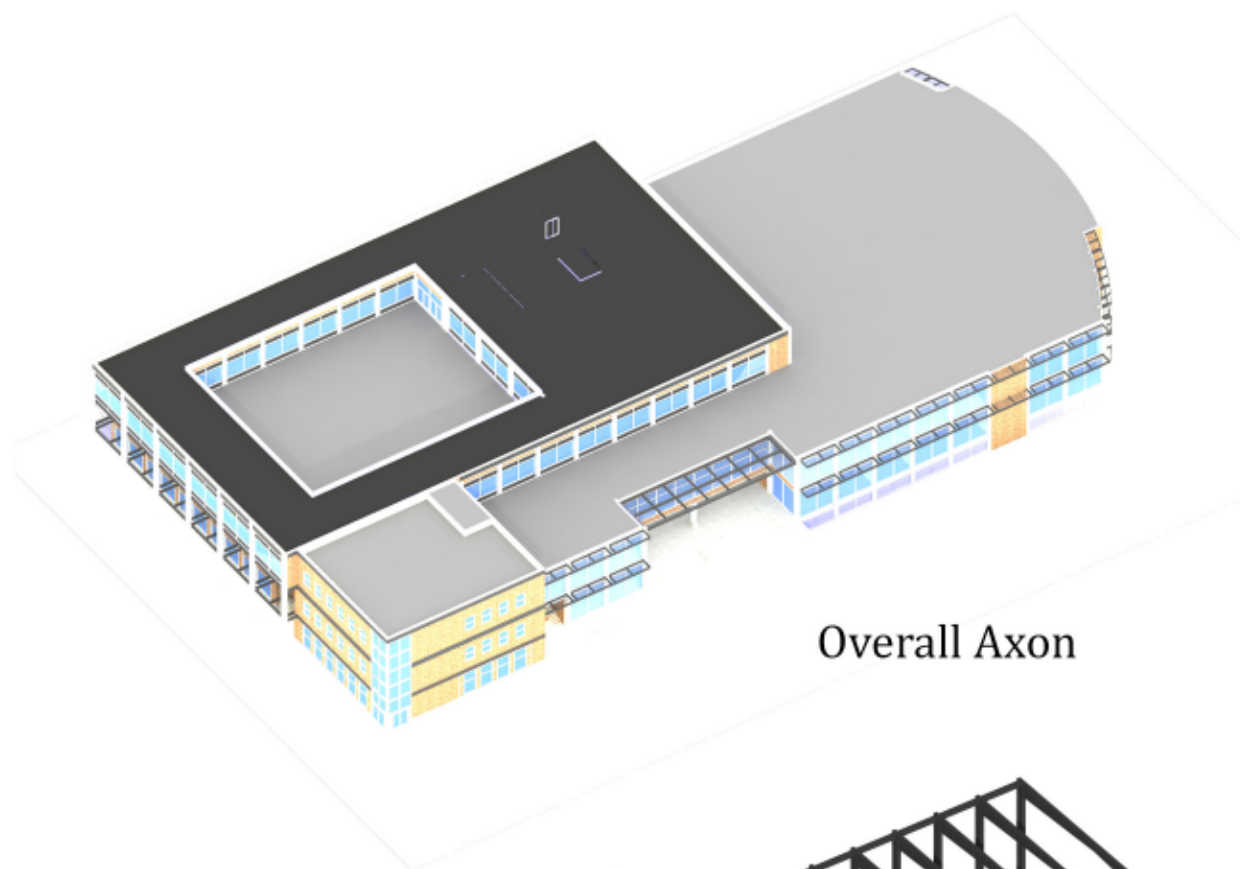
Sun/Shade Diagram



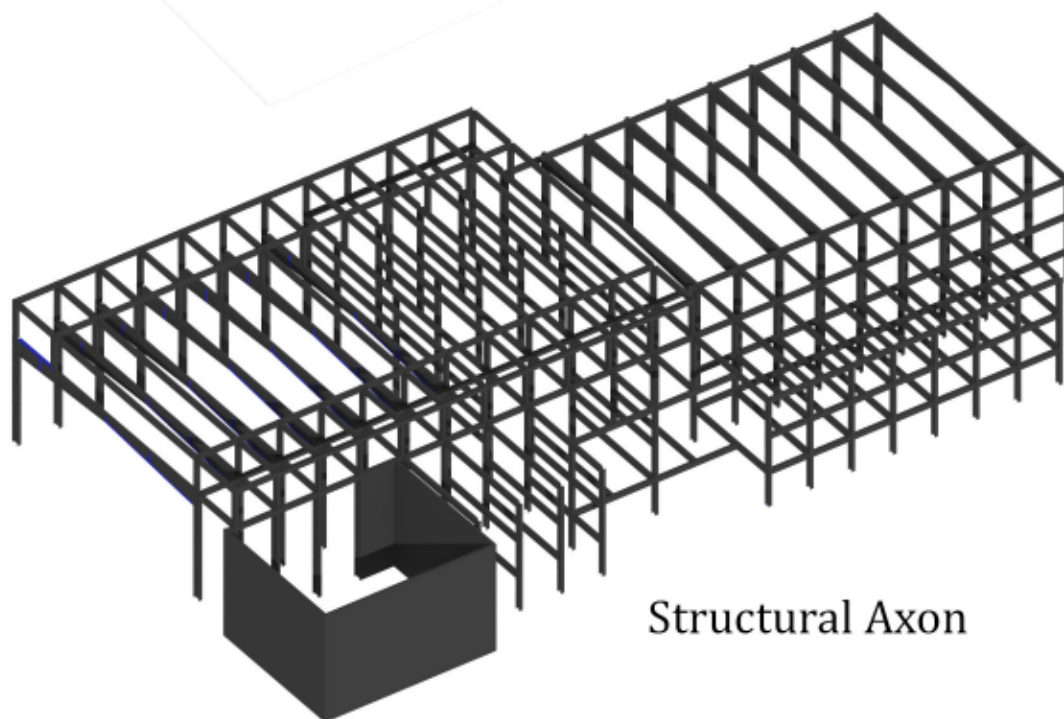
Weather Diagram



# Final Design



Overall Axon



Structural Axon

# Final Design

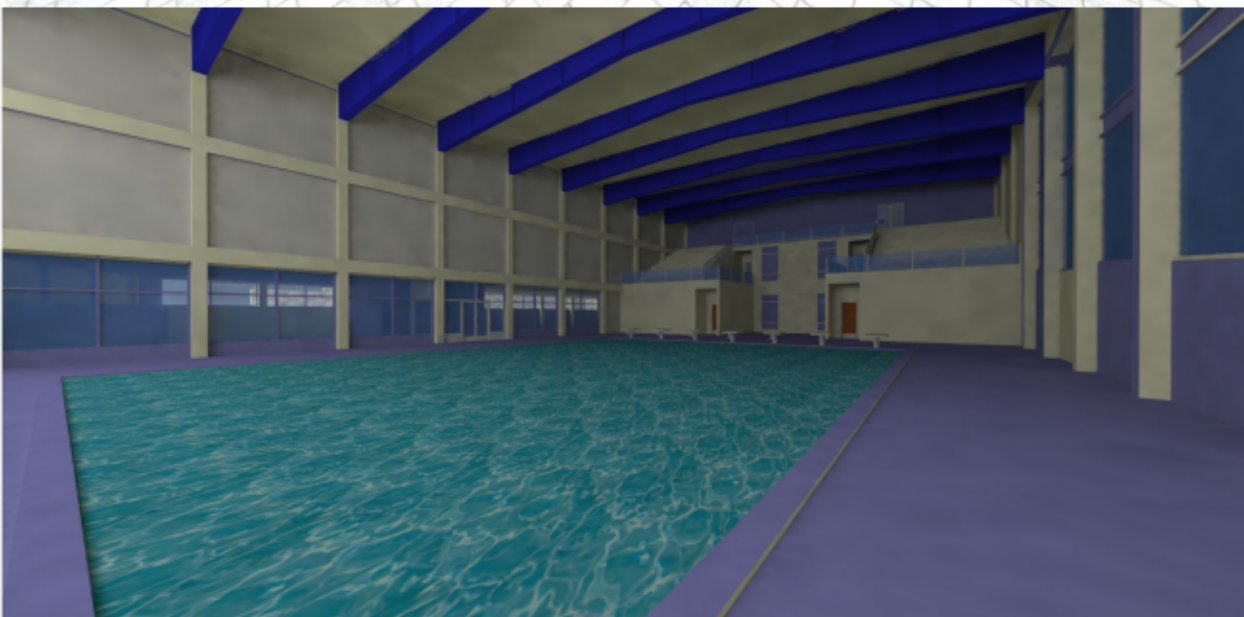
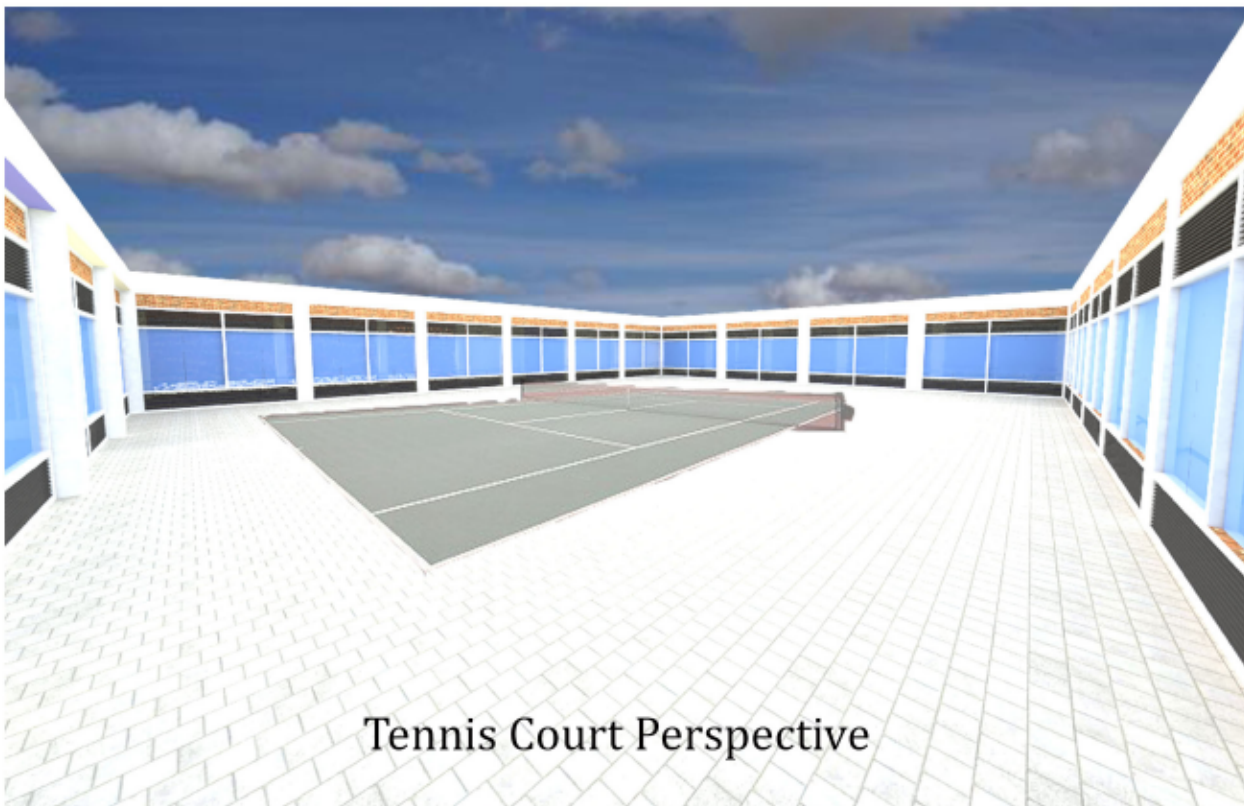


Main Street Perspective



Liberty Street  
Perspective

# Final Design



Pool Perspective



# Appendix



- An article on why children are not playing outside and interacting with other children. <http://www.kff.org/entmedia/entmedia102803nr.cfm>

## New Study Finds Children Age Zero to Six Spend As Much Time With TV, Computers and Video Games As Playing Outside

*One in four children under two have a TV in their bedroom  
Children in "heavy" TV households are less likely to read  
Parents believe in educational value of TV and computers*

Washington, D.C. – Even the very youngest children in America are growing up immersed in media, spending hours a day watching TV and videos, using computers and playing video games, according to a new study released today by the Henry J. Kaiser Family Foundation. Children six and under spend an average of two hours a day using screen media (1:58), about the same amount of time they spend playing outside (2:01), and well over the amount they spend reading or being read to (39 minutes).

New interactive digital media have become an integral part of children's lives. Nearly half (48%) of children six and under have used a computer (31% of 0-3 year-olds and 70% of 4-6 year-olds). Just under a third (30%) have played video games (14% of 0-3 year-olds and 50% of 4-6 year-olds). Even the youngest children – those under two – are widely exposed to electronic media. Forty-three percent of those under two watch TV every day, and 26% have a TV in their bedroom (the American Academy of Pediatrics "urges parents to avoid television for children under 2 years old"). In any given day, two-thirds (68%) of children under two will use a screen media, for an average of just over two hours (2:05).

"It's not just teenagers who are wired up and tuned in, its babies in diapers as well," said Vicky Rideout, Vice President and Director of the Kaiser Family Foundation's Program for the Study of Entertainment Media and Health, the lead author of the study. "So much new media is being targeted at infants and toddlers, it's critical that we learn more about the impact it's having on child development."

The study, *Zero to Six: Electronic Media in the Lives of Infants, Toddlers and Preschoolers*, was conducted by the Kaiser Family Foundation and the Children's Digital Media Centers. It is the first publicly released national study of media use among the very youngest children, from 6 months to six years old.

"These are astonishing data. Today's preschoolers are starting to use media much younger than we thought," said study co-author Ellen Wartella, Dean of the College of Communication at the University of Texas. "Where previous generations were introduced to media through print, this generation's pathway is electronic. This is a trend we must follow."

**Bedroom media.** A third of all 0-6 year-olds (36%) have a TV in their bedroom, more than one in four (27%) have a VCR or DVD, one in ten have a video game player, and 7% have a computer. Thirty percent of 0-3 year-olds have a TV in their room, and 43% of 4-6 year-olds do.



# Appendix



"When children have TVs and other media in their bedrooms, it's more difficult for parents to monitor what they're doing," noted study co-author Elizabeth Vandewater, Assistant Professor at the University of Texas at Austin. "The growing phenomenon of media in the bedroom and its impact on child development is a crucial area of future research."

**Computers.** In a typical day about one in four (27%) 4-6 year-olds uses a computer, and those who do spend an average of just over an hour at the keyboard (1:04). More than a third (39%) of 4-6 year-olds use a computer several times a week or more; 37% in this age group can turn the computer on by themselves, and 40% can load a CD-ROM.

**Heavy TV households.** Many children are growing up in homes where the TV is an ever-present companion: two-thirds (65%) live in homes where the TV is left on at least half the time or more, even if no one is watching, and one-third (36%) live in homes where the TV is on "always" or "most of the time" (the latter group are considered "heavy" TV households.)

**Impact of TV on reading.** According to the study, children who have a TV in their bedroom or who live in "heavy" TV households spend significantly more time watching than other children do, and less time reading or playing outside. Those with a TV in their room spend an average of 22 minutes more a day watching TV and videos than other children do. Those living in "heavy" TV households are more likely to watch every day (77% v. 56%), and to watch for longer when they do watch (an average of 34 minutes more a day). They are also less likely to read every day (59% v. 68%), and spend less time reading when they do read (6 minutes less a day). In fact, they are less likely than other children to be able to read at all (34% of children ages 4-6 from "heavy" TV households can read, compared to 56% of other children that age).

"These findings definitely raise a red flag about the impact of TV on children's reading," said Vicky Rideout of the Kaiser Family Foundation. "Clearly this needs to be a top priority for future research."

**Parent's views on educational value of media.** Parents of young children appear to have a largely positive view about TV and computers. They are significantly more likely to say TV "mostly helps" children's learning (43%) than "mostly hurts" it (27%); the overwhelming majority (72%) say computers "mostly help" children's learning. About half of parents consider educational TV shows (58%) and videos (49%) "very important" to children's intellectual development. They are also far more likely to say they have seen their children imitate positive behaviors from TV like sharing or helping (78%) than negative ones like hitting or kicking (36%). However, a majority of parents (59%) say their 4-6 year-old boys imitate aggressive behavior from TV (v. 35% for girls the same age).

**Media rules.** The vast majority of parents say they have rules about TV, including 90% with rules about what their kids watch and 69% with rules about how much they can watch. The study indicates the rules may have an effect: children with time-related rules spend an average of almost a half-hour less per day watching TV than other children do (1:00 vs. 1:29).

# Appendix



"When it comes to the impact of media on children, quality is as important as quantity," said study co-author Elizabeth Vandewater. "It looks like parents are getting the message that content matters," she added. "Parents should take heart, because this study shows that sticking to your guns regarding your children's media use does indeed make a difference."

**Video games.** Half (50%) of all 4-6 year-olds have played video games, and one in four (25%) play several times a week or more. Differences between boys and girls have already begun to emerge at this young age: 56% of boys have played video games, compared to 36% of girls; and in a typical day, 24% of boys will play, compared to 8% of girls.

**Reading.** Despite the plethora of new media, reading continues to be a regular part of young children's lives. In any given day, nearly eight in ten (79%) children six and under will read or be read to, and those who do spend an average of 49 minutes reading (83% will use screen media, for an average of 2 hours 22 minutes).

The results of the study are being presented during a panel discussion at the Barbara Jordan Conference Center, Kaiser Family Foundation building, from 9:30 a.m. to noon today (October 28). Participants include pediatricians, child development experts, and top executives from Scholastic, Sesame Workshop and Nickelodeon.

**Methodology.** This report is based on the results of a nationally representative, random digit dial telephone survey of 1,065 parents of children ages six months to six years old, conducted from April 11 to June 9, 2003. The survey was designed and analyzed by the Kaiser Family Foundation and the Children's Digital Media Centers, in consultation with Princeton Survey Research Associates (PSRA). The margin of error is  $\pm 3\%$ .

A live webcast of this event will be provided by [kaisernetwork.org](http://kaisernetwork.org), a free service of the Kaiser Family Foundation. The webcast, transcript, and related resources will be available at <http://kaisernetwork.org/healthcast/kff/28oct03>

## The Henry J. Kaiser Family Foundation

The Henry J. Kaiser Family Foundation is a non-profit, independent national health care philanthropy dedicated to providing information and analysis on health issues to policymakers, the media and the general public. The Foundation is not associated with Kaiser Permanente or Kaiser Industries.

## The Children's Digital Media Center

The Children's Digital Media Center (CDMC) is funded by the National Science Foundation to further collaborative research on the impact of digital and interactive media on children. The CDMC unites a national community of scholars, researchers, educators, policy-makers, and industry professionals in a community whose goal is to improve the media environment in which children live and learn.

- Gym Equipment

## At this gym, a little sweat goes a long way

Oregon facility harnesses energy in an effort to reduce carbon footprint

### INTERACTIVE



#### Pedaling for power

The green revolution may be coming soon to a gym near you. Among the environmentally friendly features at Portland's Green Microgym is a four-person machine called Team Dynamo, which will harness the collective power of exercisers as they pedal and turn hand cranks — providing electricity for the gym in the process.

Courtesy of Mike Taggett/Henry Works R & D

[msnbc.com](http://msnbc.com)

Adam Boesel isn't quite ready to light up his neighborhood with a legion of electricity-generating exercise bikes, much less his own gym.

But the owner of the [Green Microgym](#) in Portland, Ore., hopes his people-powered approach toward energy generation — the first of its kind in the nation — could make a dent in his business's carbon footprint.



and turn hand cranks. Unlike with spin bikes, the added hand cranks are designed to provide rigorous upper-body workouts — as well as yield additional electricity.

In addition to the Team Dynamo, Boesel has re-engineered a small motor to capture the pedal power from a trio of spin bikes and generate electricity for the gym's television and [stereo system](#). A more sophisticated version, he said, could be scaled up for larger spaces.

The total output is small but not insignificant — initially, Boesel believes the Team Dynamo and his modified spin bikes could collectively generate about 1,000 watts per hour. But beyond the modest boost in member-generated power, Boesel also hopes to encourage patrons to reconsider how they can reduce their own electricity use while trimming their waistlines.

## **People power**

As a personal trainer with a dream of opening a neighborhood gym, Boesel began thinking about how his idea might stand out from other health clubs. At first, he set his sights on more traditional measures like installing solar panels. But then he read an article in an entrepreneurial newsletter about how Hong Kong's [California Fitness](#) gym had begun generating electricity from 13 spin bikes and elliptical machines as a pilot project.

"This Hong Kong gym showed that at the very least, it's possible," he said. "It doesn't take a lot of extra money to do, so I said, 'This is what I'm going to do,' and I just started doing it."

Portland's Green Microgym is the first commercial test site for the Team Dynamo machine, made by [Henry Works](#) Research and Development. The El Paso, Texas-based company also makes a one-person Human Dynamo machine, which has begun popping up around the country. An early prototype even made its way to the U.S. Ski Team's training facility in Park City, Utah.

President Mike Taggett, who has a background in alternative energy, has spent much of his time figuring out how much power an exercising person can generate over a sustained period of time, and how that electricity-generating process might be made more efficient. "Fifty percent is fairly basic," he said, "but we could get to 60, 70, and maybe as much as 75 percent efficient."

Taggett's Human Dynamo, a single modified spin bike with a hand crank, can deliver a full-body workout while generating a net electrical output of about 50 watts per hour.

The more complicated Team Dynamo version, which Boesel has at his gym, consists of four machines bolted together with a common driveshaft that propels an electrical generator. On the low setting, Taggett said, four people could produce in excess of 150 watts per hour. On the high



setting and with seasoned athletes, the system could yield maybe 400 watts per hour, while sprints could produce bursts of 700 to 900 watts.

For each Dynamo, about 70 percent of the power output comes from pedaling, with the rest supplied by turning the hand crank. During each exercise session, an LED display shows the wattage and calculates the average watt-hours every five minutes, with a final readout revealing the total watt-hour production by the individual or quartet.

At the moment, an "off grid" system directs the watts toward charging batteries that in turn power an inverter, creating 120 volts of alternating current. Eventually, both Taggett and Boesel would like to see a more efficient "grid tie" system wired directly into the gym's electrical panel.

If a larger health club followed the same concept using several dozen exercise machines, Taggett said, the power could really start to add up. "It's very conceivable that a gym could be primarily user-powered during the busy times," he said

## **An unexpected charge**

Despite concerns over cost and efficiency, the people-power movement has spawned a growing number of other projects with names like the "Crowd Farm," which envisions tapping the power of [pedestrians or concertgoers on specially designed surfaces](#).

Even nightclubs are getting into the act, with two competing "eco-disco" groups, [Club4Climate](#) and [Sustainable Dance Club](#), both touting new energy-generating dance floors among a laundry list of green credentials. Club4Climate's Club Surya in London features an energy-production plan based on piezoelectric principles, in which crystals beneath the floor rub together with every enthusiastic dance move, generating an electrical charge that feeds a battery bank.

A European rival, Sustainable Dance Club, has outfitted its Club WATT in Rotterdam, the Netherlands, with a dance floor that instead uses coils and magnets that move with the masses to create an electrical charge. In an e-mail, Sustainable Dance Club spokeswoman Vera Verkooijen said every person on Club WATT's dance floor will be able to produce 5 to 10 watts of power, depending on their weight and activity level. At the moment, she said, the electricity will stay within the floor and power an interface that includes a glowing energy meter (dubbed the "green ghost") displaying the floor's relative power level.

People power may have its limits, though. Beyond the "wow" factor, Sustainable Dance Club representatives have estimated in other news reports that 2,000 clubbers would have to pack the dance floor to power the light system at the club, slated to open Thursday.

# Appendix



The estimated yield of 5 to 10 watts per dancer is about ten-fold lower than the target for Green Microgym's clientele. But even at top speed, the electricity generated by all of the health club's exercise equipment may be enough to offset little more than the power consumed by a single treadmill.

Then again, maybe relying on customers to literally power a business isn't the main point.

## **Rethinking power needs**

"When it comes to talking about 'people power' contributing to the daily electricity load that an average person deals with, I think our stance is that those applications would have to become much more efficient for them to make an impact," said Jeffrey John, spokesman for the [Rocky Mountain Institute](#).

The Old Snow mass, Colo.-based nonprofit organization, which encourages the more sustainable use of resources, emphasizes the importance of improving efficiency, especially for the "low-hanging fruit" of lighting systems.

Even so, John said, "I think there's a significant impact of people thinking about 'people power' to just frame their ideas when it comes to thinking about electricity and electricity needs."

Boesel couldn't agree more.

Contrary to a few suggestions, he said, "we're not going to generate enough electricity to power the community."

He has found plenty of highly visible ways to cut back on the gym's electric bill, however, including a 3-kilowatt array of solar panels on awnings above the building's front windows.

Boesel also brought three ECO-POWR Treadmills that each use a maximum of about 1,000 watts instead of the standard 1,500. Because each still consumes 25 watts while in standby mode, the gym will keep the machines turned off when they are not in use. And instead of lighting entire rooms or turning on banks of overhead fans, members will turn on the lights and fans only above their own workspaces.

"We're saving electricity in every possible way that we can," he said. "And as I've been doing it, I've been finding more and more ways to do it efficiently, effectively and affordably."

# Appendix



Among Boesel's other environmentally conscious decisions, he laid recycled rubber flooring in exercise rooms and [eco-friendly](#) cork in the yoga room, bought remanufactured or high-quality used equipment, and nixed a showering area to save on water and heating costs.

The lack of showers, Boesel said, is more a function of the space serving as a modest-sized neighborhood gym that most members will likely walk or bike to. "If 90 percent of the gym members don't need it, maybe we don't need to have it," he said.

If the thought of a delayed shower induces grumbling in the remaining 10 percent, Boesel is formulating a plan to make it up to them with a kind of "pedaling for pasta" incentive involving local restaurants: For every hour spent generating electricity on the gym's spin bikes or Team Dynamo machine, an avid exerciser could earn money in the form of a gift certificate to help fill that rumbling stomach.

# Appendix



- YMCA charter

## About the YMCA

**THE NATION'S 2,686 YMCAs** respond to critical social needs by drawing on our collective strength as of one of the largest not-for-profit community service organizations in the United States.

Today's YMCAs serve **thousands** of U.S. communities, uniting **21 million** children and adults of all ages, races, faiths, backgrounds, abilities and income levels. Our reach and impact can be seen in the millions of lives we touch every year. Across the nation, YMCAs are committed to helping:

- Children and youth deepen positive values, their commitment to service and their motivation to learn
- Families build stronger bonds, spend time together and become more engaged with their communities
- Individuals strengthen their spiritual, mental and physical well-being

At every stage of life, YMCAs are there to help children, families and individuals reach their full potential.

### TODAY'S YMCAs

<b>Members</b>	<b>20,916,698</b>
17 and under	9,422,524
18 and over	11,494,174
Men	10,426,328
Women	10,490,370

<b>Volunteers</b>	<b>548,926</b>
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<b>Total revenue</b>	<b>\$5.96 billion</b>
Contributed income	\$976 million
Government grants/contracts	\$626 million

<b>Number of YMCAs</b>	<b>2,686</b>
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### Embracing Our Commitment to...

#### Children and Youth

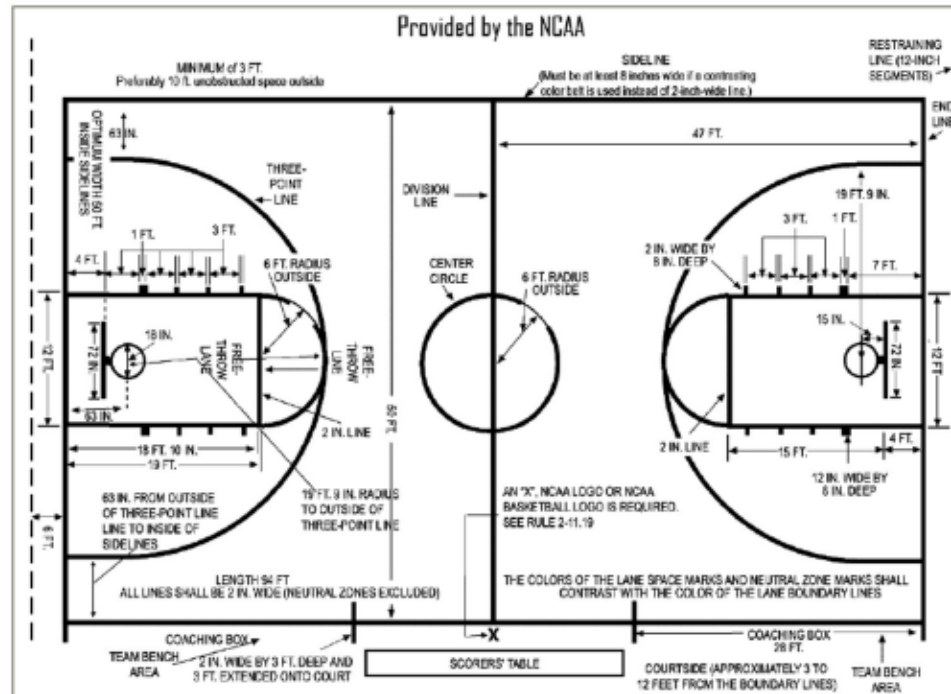
- Nearly 10 million children ages 17 and under engage in a wealth of enriching YMCA activities.



# Appendix



- Regulations on Athletic venues



<http://www.apollostemplates.com/pdf-templates/basketball-court->

What are the measurements and dimensions of an Olympic pool?

In: Olympics Swimming [Edit categories] [Edit]

[Edit]

Length--50 m.

Width-- 25 m.

Lanes --8.

Lane width --2.5 m.

Depth-- 2.0 m.

VOLUME--2,500 M3 OR 2,500,000 LITERS

[http://wiki.answers.com/Q/What\\_are\\_the\\_measurements\\_and\\_dimensions\\_of\\_an\\_Olympic\\_pool](http://wiki.answers.com/Q/What_are_the_measurements_and_dimensions_of_an_Olympic_pool)

# Appendix



## Families

- YMCAs help families build bonds, connect with community resources and become strong and self-sufficient.
- For more than eight decades, YMCAs have offered Adventure Guides and similar programs that bring parents and children together.

## Health and Well-being

- YMCAs are collectively the nation's largest providers of health and well-being programs.
- YMCAs are working to promote healthy living for millions of Americans through YMCA Activate America®. Learn more about [YMCA Activate America](#).

## Communities

- Financial assistance—made possible annually by more than \$1.6 billion in public and private support, as well as YMCA members—opens all YMCA programs to those in need.
- Volunteer founded and volunteer led, YMCAs depend on the generosity and dedication of their 548,926 volunteers across the United States.

## Improve Lives

- America's 2,686 YMCAs are collectively one of the largest not-for-profit community service organizations in the United States.
- 64 million households and 32 million children ages 14 and under live within three miles of a YMCA, while 1,518 YMCAs serve communities where the median family income is below the U.S. average.

## International Reach

- The YMCA is one of the largest volunteer organizations in the world, serving more than 45 million people in 124 countries. Learn more about [YMCA World Service](#).

## Collaborations

- The nation's YMCAs collectively represent one of the largest collaborative organizations in the country.

### COLLABORATIONS

#### Number of YMCAs

#### Schools

» Charter Schools

498

» Colleges

1,014

# Appendix



» Community Colleges	800
» Elementary Schools	1,815
» High Schools	1,460
» Home School Programs	925
» Middle Schools	1,444
Churches	1,553
Community Health and Well-being Coalitions	822
Government Agencies	
» County	1,000
» Federal	430
» Local	1,265
» State	781
Hospitals	1,148
Human Service Agencies	502
Juvenile Courts	515
Libraries	463
Low-Income Public Housing	409
Museums	179
Neighborhood Associations	507
Parks and Recreation	1,245
Rehabilitation/Medical Centers	435
Theaters	134
Youth Agencies	661

# Acknowledgements



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